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THE OBLITERATION OF THE CRAVING FOR NARCOTICS

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If some years ago any one had told me that it was possible to take away the desire for morphin, cocain, or alcohol in less than five days with a minimum of discomfort and suffering to the patient, I should have felt justified in treating the statement with a polite skepticism. Such, however, is the fact, if the treatment which is about to be described in this article is carefully carried out. I do not doubt that in my turn I shall be met with skepticism, and perhaps ridicule, and more especially from those members of the profession who have struggled and toiled to break up the morphin and cocain habits. Heretofore there has been nothing so discouraging, so trying to both physician and patient, as the endeavor to eradicate the craving for these drugs.

In my service in the alcoholic wards of Bellevue Hospital most of the patients were simply in the various stages and degrees of alcoholism, but there was always about 1 per cent. among the men and 2 per cent. among the women who were addicted to morphin and cocain. Many of these patients did not wish to be cured; many did earnestly desire to be rid of their enslaving habit. Many were the forms of treatment and drugs with which I tried to break off the habit and take away the craving. In a very few cases I sometimes believed that I had succeeded, but even in these cases there was always a doubt in my mind. In the vast majority of patients I knew that I had failed.

Five years ago Mr. Charles B. Towns, of New York City, informed me that he had a treatment by the use of which it was possible in about three days to remove the craving for morphin and cocain and also for alcohol. After this desire for the narcotics was gone the patients would be able to remain free from the use of morphin, and if it was worth while to the patients it was possible for them to abstain from the use of cocain and alcohol. Mr. Towns, not being a physician, was not bound to tell me the ingredients of this treatment. I begged him to publish it and to put it on an ethical basis, as otherwise I could not use it, but at that time it did not seem expedient for him to do so. Recently he has made the treatment known in all its details to the Opium Congress at Shanghai, and on his return from China he has given me the full details of the treatment and I have been using it in Bellevue Hospital during the last two months.

While the treatment was still unknown to me, and before I used it, I watched Mr. Towns treat various patients addicted to morphin, cocain and alcohol, and found that the claims he made for the treatment were true. I have, therefore, watched patients who ceased the use of their drug five years ago and have not returned to it, and recently I have myself carried out the treatment indicated below.

There are so many factors to be considered in treating those addicted to narcotic drugs that there is no intention here to claim an infallible cure. We are dealing very often with the morally perverted, with those who have been suffering mental or physical pain, with those who have endeavored to stimulate their flagging abilities to ward off failure in life and to spur themselves on by means of these drugs in the hope of succeeding where failure seemed inevitable. Every morphin habitué knows the ease and sureness with which morphin will relieve pain and distress, and if once off the drug and the temptation returns there is a full knowledge of how it may all be relieved. There is no stimulant like cocain, which so fully gives the feeling of being able to do all that one hopes and dreams possible; and there is no drug which so gives the feeling of physical and mental well-being. Added to this, after a few months' use of cocain, there arises a form of persecutory insanity which convinces those addicted to the drug that every one and all the world is against them, and they refuse to listen to any advice. Most alcoholics do not desire to cease from their drinking. When once the habit becomes thoroughly formed, they do not become drunk from haphazard drinking, but they deliberately drink to excess that they may blunt the knowledge of their unhappiness and the realization of their misery and their environment. Alcohol also in many cases brings with it actual physical lesions in the nervous tissues, so that with a deteriorated mentality the higher functions of the mind are destroyed.

The specific in this treatment is the old 15 per cent. tincture of belladonna and the fluid extract of xanthoxylum (prickly ash) and the fluidextract of hyoscyamus mixed in the following proportions:

℞.	gm.	
Tincturæ belladonnæ	62	ʒii
Fluidextracti xanthoxyli		
Fluidextracti hyoscyami āā	31	ʒi

While this specific is being given, the patients do not suffer from the intense diarrhea which usually accompanies the withdrawal of morphin. On the contrary, the most energetic, drastic, cathartic medication is necessary to obtain the desired elimination and to make their bowels move satisfactorily. This cathartic medication forms one of the crucial points in the treatment. Unless it is properly carried out the treatment will fail and the patients suffer intensely and to no avail. If

properly carried out, according to the directions given below, the sufferings of the patient are actually but little, and the treatment goes on to a successful issue.

The most useful combinations in my hands have been the compound cathartic pills of the Pharmacopeia, which contain:

℞.	gm.	
Extracti colocynthidis compositi.....	.08	gr. i⅓
Hydrargyri chloridi mitis.....	.06	gr. i
Cambogiæ	.016	gr. ¼
Resinæ jalapæ	.02	gr. ⅓

And also the pilule catharticæ vegetabilis:

℞.	gm. or c.c.	
Extracti colocynthidis compositi.....	.06	gr. i.
Extracti hyoscyami		
Extracti jalapæ .....āā	.03	gr. ss
Extracti leptandræ		
Extracti resinæ podophylli.....āā	.015	gr. ¼
Olei menthæ piperitæ.....	.008	M. ⅛

To these last I have added in each pill 1/10 (6 mg.) of a grain of the oleoresin of capsicum, ½ gr. (30 mg.) of ginger, and 1/25 minim (.0025 c.c.) of croton oil. I also found that the ordinary stock preparations of compound cathartic pills were too dry to be effective. I, therefore, had made up fresh masses of these preparations, and the mass equivalent to each pill put into a capsule. The preparations kept their freshness, and their effectiveness was very noticeably increased. I also had put in capsules blue mass in five-grain doses. I have thus gone into details because of their importance.

For brevity, I shall hereafter refer to the compound cathartic pills as C. C. pills, and the vegetable cathartic pills, as modified above, as B. B. pills.

The treatment of a case of morphin or cocain is as follows: Before beginning the treatment, give four C. C. pills and five grains of blue mass. It is also wise at this time to give an enema of soapsuds to clean out the rectum and sigmoid thoroughly. When these pills have begun to act, begin with the specific, 6 to 8 minims, and give it every hour throughout the treatment, or until some signs of belladonna intoxication are observed. Every six hours, increase the specific 2 minims until 14 or 16 minims are being taken every hour. Do not increase above 16 minims. If the signs of belladonna intoxication are noticed, such as dilated pupils, dryness of the throat, red rash, or a rapidity and incisiveness of speech, or sometimes a beginning delirium, stop the specific. When these belladonna symptoms have subsided begin the specific again in 8-minim doses. Some patients are very susceptible to belladonna, and one may have to begin again with 4, 5 or 6 minims. Give with the first dose of the specific from one-half to two-thirds of the usual total daily dose of opium, morphin, or cocain which the patient is taking at the time of his treatment. Divide this amount of narcotic in three doses and give them at half-hour intervals, by mouth or by hypodermic as the patient is accustomed to take it. After the first dose of the specific, wait fourteen hours and then give four C. C. pills and five grains of blue mass; again, six hours later, repeat the four C. C. pills or give four to six B. B. pills. It is essential that the cathartic should act at this time, and, if the above amounts do not produce the desired action within three or four hours, they must be repeated with five to ten grains of blue mass. It is astonishing how difficult it sometimes is to obtain a cathartic action at this period, but cathartics must be persisted in until a movement is obtained. If this is not done, the patients are liable to begin to vomit, and the distressing symptoms of the narcotic withdrawal will come out in full force. An ox-gall enema is sometimes of assistance.

After the bowels have acted, but not before, one-third or one-half the original dose of the narcotic may be given. This will make the patient comfortable and contented and ready for the final stage.

Twelve hours after the second dose of the narcotic again give 4 C. C. pills or 4 to 6 B. B. pills with five grains of blue mass, and six hours later give an ounce or more of castor-oil disguised in coffee or orange juice, but not in whiskey. Just before the castor-oil acts, one may have to give from two to five grains of codein phosphate hypodermically or by mouth to quiet the nervousness and discomfort. This is not always necessary, but it adds to the comfort of the patient and does not tie up the secretions as does opium or morphin. The castor-oil at this time will produce a characteristic stool, which shows that the entire treatment may cease. This is a liquid green stool, composed of mucus and bile. When this stool occurs, or shortly afterward, the patients often will feel suddenly relaxed and comfortable, and their previous discomfort ceases. The transition from discomfort to relaxation and contentment is often strikingly marked.

After the patient has been under treatment for thirty hours, one should begin to give some cardiac stimulant, such as strychnin, 1/30 to 1/60 grain, every three hours, or digitalis or strophanthus, either one of these separately or in combination. These tend to overcome the relaxation of the vascular system, which in these patients often produces a feeling of exhaustion.

During the treatment the patients should be given a regular diet of easily digested food, such as eggs, cereals, bread and butter, and vegetables; coffee or tea if they desire it. Many of these patients have a good appetite throughout and eat abundantly; some, of course, do not, and, beginning in a poor physical condition, do not begin to eat abundantly until after the treatment is ended. After they are through the treatment, their appetite becomes voracious, and during the first week care must be taken that they do not overeat, which they are very prone to do. If their stomachs should become overloaded the discomfort will often make them feel as if they were suffering from the symptoms of withdrawal of their accustomed narcotic. If this occurs, the best thing to do is to give them an emetic, and their distressing symptoms will soon cease.

The treatment of alcoholics with this specific differs slightly from the treatment of the morphin or cocain habitué. The same specific is used and in the same dosage, but it does not have to be continued for so long a time, although there may be some exceptions. Much closer observation is necessary in treating the alcoholic in regard to the symptoms of the intoxication of belladonna. The alcoholic is more sensitive to the belladonna effects. This is only a general rule, because, no matter what narcotic drug an individual may take, or how accustomed he may be to enormous doses of any given narcotic, he may have a marked idiosyncrasy toward any other drug. If, however, there is an idiosyncrasy against belladonna this sensitiveness will show within six or eight hours, no matter which one of the three narcotics under discussion the patient has been taking. The alcoholic is more prone to show a slight delirium from belladonna than are the patients who take morphin or cocain, and often a good deal of shrewd observation is necessary to differentiate the beginning

TABLE OF TREATMENT OF PATIENTS ADDICTED TO NARCOTICS

Case.	Sex.	Age.	Duration of Habit, yrs.	Drugs.	Daily Dose, Gm.	Mode of Admin.*	Alleged Cause.	State on Admission.	Initial Dose Drug, Gr.	Hours of Subsequent Doses.	No. Hours Specific Medication.	Average Hourly Dosage, Drops.	Hour Typical Stool Appeared.	Day of Discharge	Complications
1.	F	33	12	M	18	h	Pain after operation.	Emaciated, depressed.	7	26-38-60	58	12	36	14	Vomiting.
2.	M	33	11	M	25	h	Experiment. with drug.	Good.	6	28-39-60-63	58	11	58	11	
3.	F	45	⅔	H	4	h	Pain and nervousness.	Weak and nervous.	1	13-24-35-38	52	11	52	10	
4.	M	33	2	M	12	h	Pain after operation.	Good.	8	22-33-43-53	58	10	50	13	
5.	F	43	1½	M	12	h	Pain, acute rheumatism.	Good.	8	24-35 52-58-82	50†	9	44		Continued nervousness relieved by supplementary treatment.
6.	M	24	8	M	30	h	Pain.	Fair.	2	17-36	40	11	36	13	
			3	C	15	h	.....		15	24-36	64	10	46	8	
7.	M	32	3	M	6	h	Acute rheumatism.	Weak and despondent.	2.5	25-67	45	12	43	11	
8.	M	24	¼	M	1	h	Rheumatism.	Good.	0.5	25	35	11	34	4	
9.	F	24	⅔	M	2	h	Prevent threat. abort.	Weak and nervous.	1		30	10	38	5	
10.	M	38	3	M	10	h	Stone in bladder.	Good.	4	24-32-41-47-53 11-21-27-35-48 54-64-74-81-97 101-111	42†	9	41		Bad condition. A previous "fake" treatment made this long course necessary. Final result excellent.
11.	M	50	4	M	2	m	.....	Weak and hypochondriacal.	1	25	123 57	3-10 11	57	26 9	
12.	M	36	4	M	6	h	.....	Fair.	3	23	48	10	48	12	
13.	F	27	⅔	M	4	h	Pain.	Good.	2.5	15-25-37	40	13	35	12	
14.	F	30	⅓	M	6		Gastralgia.	Fair.	2	36	54	12	55	9	Slight dyspnea due to heart.
15.	M	27	1½	M	7	h	Painful disease.	Weak and despondent.	5	26-33	61	10	59	7	Slight elevation of temperature.
16.	M	35	1/6	M	4	h	Alcoholism.	Fair.	2	14-27	48	11	48	12	
17.	F	59	20	M	12	m	By Phys. pain.	Feeble, nervous.	6	22-34	46	12	46	13	
18.	M	58	3	M	1	h	Grief, death relative.	Feeble, depressed.	0.5	26	56	9	58	13	
19.	M	35	⅔	M	30	m	Pain after operation.	Good.	20	26-38	50	8	41	11	
20.	M	58	12	M	5	m	.....	Good.	3	24-38 7-22 36-60	49 114	10 3-12	47†	14	Persistent nervousness removed by supplementary treatment.†
21.	F	32	8	M	10	h	Environment.	Fair.	12	24 hrs. 4 grs. 52 hrs. Cod.	52	13	48	22	
22.	F	23	3	M	12	h	Prescribed following typhoid.	Poor.	8	18 hrs. 2 gr.	52	13	48	11	Alcohol.
23.	F	30	7	M	12	h	Prescribed during illness.	Poor.	8	24 hrs. 2 gr. Cod. 5 gr. 47 hrs.	47	8½	47	12	
24.	F	28	8	M	10	h	Environment.	Very poor.	5	23 hrs 3 grs.	49	12	49	14	Anemia.
25.	M	32	1½	M	5		Lumbago.	Good.	2	30 hrs. 1 gr. 54 hrs. 5 Cod.	54	13½	54	10	Alcohol.
26.	M	39	3	C	12		Nasal catarrh.	Fair.	4	32 hrs. 1 gr.	40	19½	40	8	
				M	5				6	26 hrs. 2 gr. 22 hrs. 3 gr. Cod.	45	11	45	17	
27.	M	36	2	M	6	m	Following operation.	Good.	2	24 hrs., oz. 1 Laudanum; 40 hrs. Cod. gr. v.	47	11	47	6	
28.	M	50	7	L	2 doz.		Following diarrhea.	Good.							

*M stands for morphin; C for cocain; H for heroin; L for laudanum; h for hypodermically, and m for by mouth.
† Supplementary treatment indicated in text.

delirium of belladonna from the ordinary delirium of alcohol. The belladonna delirium is, I think, a less furious and less pugnacious delirium than that of alcohol. The patients are more persistent and more insistent in their ideas, and more incisive in their speech concerning their hallucinations than is the alcoholic. The hallucinations of alcohol are usually those of an occupation delirium; those of belladonna are not. The various hallucinations of alcohol follow each other so quickly that a man is busily occupied in observing them one after another. The belladonna delirium is apt to be confined to one or two ideas in which the patient is very insistent.

If these symptoms of belladonna intoxication occur, of course, the specific must be discontinued, beginning again with the original smaller dose. When an alcoholic is admitted in the midst of his spree, or at the end of it, the first thing to do is to put that patient to sleep, and the only medication which precedes his hypnotic is the four C. C. pills. The hypnotic which has given me the best results is the following:

℞.	gm. or c.c.	
Chlorali hydrati	1	gr. xv
Morphinæ	.008	gr. ⅛
Tincturæ hyoscyami	2	ʒss
Tincturæ zingiberis	6	m. x
Tincturæ capsici	3	m. v
Aquæ ad	15	ʒss

This can be given and the dose repeated in an hour, with or without one or two drachms of paraldehyd.

If these are not effective within two hours, or even less, and the patient is of the furious, thrashing, motor type, a hypodermic injection of the following will almost invariably quiet him:

℞.	gm. or c.c.	
Strychninæ sulphatis	.002	gr. 1/30
Hyoscyamin sulphatis	.0006	gr. 1/100
Apomorphinæ hydrochloridi	.006	gr. 1/10

If the patient has been very hard to put to sleep and needed all these hypnotics, I let him sleep until he wakes naturally before beginning the specific. If, however, he goes to sleep easily with the chloral and paraldehyd, it is safe to wake him every hour for his specific, as he will quickly drop off to sleep.

I believe it wise to give most alcoholics 1/60 to 1/30 of a grain of strychnin every four hours. In the young robust alcoholic this may not be necessary, but in the majority of those at the end of a protracted spree it is more often indicated than not. Fourteen hours after the beginning of the specific the patient should again be given a cathartic. One must judge here from the severity of the action of the 4 C. C. pills whether the same dose should be repeated, or whether only 2 C. C. pills with five grains of blue mass should be given. Although I have never seen one of these patients overphysiced, we must treat them as individuals and not fall into the dangerous habit of routine treatment.

At this stage of the treatment the young full-blooded alcoholics may need a further dose of the hypnotic, and one may be able to carry them through the entire treatment without any alcohol; but the older alcoholics and those in a weakened and poor physical condition should have with their milk one or two ounces of whiskey about four times a day. This whiskey and milk is to be given only for the first twenty-four hours. During the second twenty-four hours probably only two doses of whiskey will be required, and after that it should not be given at all.

After the second dose of cathartics has acted, if the patients begin to show the characteristic green, mucus stools, they should be given an ounce of castor-oil, and from this dose the characteristic stool, as described under morphin, will appear and the treatment may cease. If, however, the green stool does not begin to appear at this time, further C. C. pills should be given, and as soon as the green stool begins to appear the castor-oil should be given.

After this treatment, with its vigorous elimination, these patients will feel languid and relaxed, but there is no craving for the alcohol. For the next two or three nights, if they can not sleep, they should be assisted with some hypnotic, such as sulphonethylmethanum (trional), and they should be given at regular intervals any good vigorous tonic that does not contain alcohol but will act quickly. For at least a week following this treatment they should continue their tonic, and they should live on a simple diet which is readily digested, but have an abundance of food.

It seems well to reiterate here, and to emphasize in the strongest way possible, that this treatment is not an infallible cure for alcoholism, for there is no such cure short of the grave. This does obliterate the craving, and establishes a patient's self-confidence to go on without alcohol; it will do all that can be done for the man who honestly desires to be helped; but as sure as that man lives, and just so long as he lives, he can not touch alcohol in any form whatsoever without danger of a relapse.

In the above description of the treatment for morphin, cocain or alcohol, I have spoken as if the patient was taking a single drug. Very frequently we encounter patients who are taking morphin and cocain or morphin and alcohol. When this treatment is given to the cocain habitué who is taking only cocain, or when morphin and cocain are combined, the patients sleep almost continuously throughout the treatment. Cocain is usually taken as a stimulant, an antidote against the depressing effects of the morphin, and this should never be forgotten; therefore, the initial dose of the morphin, in the very beginning of the treatment, when the two drugs are combined, should be smaller than when morphin alone is taken. Cocain is so strong a stimulant that when it is withdrawn it is often necessary, from the very beginning of the treatment, to give a stimulant, such as strychnin, instead of waiting thirty hours, as stated above.

The familiar symptoms in morphin withdrawal, such as intense diarrhea, intense joint and abdominal pains, and muscular contraction, do not occur when this treatment is properly carried out. They are most likely to appear just before the second cathartic acts, and for that reason, as emphasized above, the cathartic action must be obtained at this time. If this is not done, the patients are certain to have trouble.

The accompanying table gives in abbreviated form the course of the treatment in a number of patients and gives a statistical view of the various types of patients and the duration of their treatment. The duration of stay in the hospital may seem excessively long, but many patients remained in order that they might be built up physically after their treatment. Their craving for their drug ceased when the characteristic stool occurred.

As is well known, morphin is often taken to smother the pain of some underlying disease, or the distress of some disturbance of function. If these causes still exist after the morphin has been eliminated, the evidence of this former disease or this disturbed function will come

to the surface again. At times the narcotic addiction is but a symptom of some abnormal mental state which is only diagnosticated after the narcotic craving in the patient has been removed. This treatment is not a cure-all for disease, a rehabilitator of all the disturbed functions of the body, but if properly carried out it will obliterate the craving for the narcotic and the patient starts anew where he was before taking the narcotic.

The details of this treatment have been given so minutely because it is necessary that they should be carried out, for the success of this treatment depends on the conscientious adherence to its many details. Unless this adherence is given, this treatment will probably not succeed. A successful issue is endangered when an attempt is made to carry out the treatment in the patients' homes and in their accustomed environment. They must be placed where they are alone and where they can be carefully watched. Morphin habitués never begin a treatment with any confidence of its success, but invariably with a dread of the distressing withdrawal symptoms. They will secrete the drug in the most unexpected places, and they are the most sly and resourceful creatures on earth, especially those who have ever tried to break it off. No physician is capable of taking this treatment himself and carrying it through successfully. If it is attempted, the old medical adage that the doctor who treats himself has a fool for a patient will be strikingly exemplified.

This treatment does not offer a cure of the perverted habits of the human race, or a regeneration of the mentally defective. It will obliterate the craving for narcotic drugs, and that is all that is claimed for it.

36 East Thirty-first Street.

THE PREVALENCE OF RABIES IN THE UNITED STATES *

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The identity of rabies as a definite disease appears now to be generally accepted, although there is still some question as to its etiology. The impression has prevailed, however, that the prevalence of the disease among both man and animals was exaggerated and that press reports of rabies among animals were in most instances erroneous.

That rabies has been endemic in the United States for more than a hundred years is shown by reports of cases and references to the disease in the medical literature from time to time during that period.

In reviewing the history of rabies in America, Ravenel states[1] that the first outbreak was reported from Boston in 1768, that it appeared in Philadelphia in 1779, that it was prevalent throughout the Northern states in 1785, and that soon after that time it spread to the Southern part of the country.

Reports of the disease have also appeared in newspapers from time to time for over a century; one of these, published in 1798 and recently quoted by Peters,[2] indicates that the disease prevailed in Massachusetts at that time.

There has undoubtedly been considerable variation in the prevalence of rabies from decade to decade, which fact has been responsible for inquiries in the past regarding the disease. Outbreaks in Massachusetts and other places have been observed within a year or two and invited attention to the desirability of further studies as to its general prevalence at the present time, and the means necessary for its control.

The Legislative Council of the American Medical Association, which met in Chicago, Dec. 10, 1907, adopted resolutions to the effect that rabies should be investigated by the U. S. Public Health and Marine-Hospital Service with the view to its prevention and control.

Provisions for investigations of rabies as it affects man had previously been included in a measure which was introduced into the Sixtieth Congress, and which it was expected would become a law. In view of the adoption of the above-mentioned resolution, however, it was decided immediately to resume laboratory investigations and to institute preventive treatment for the protection of persons bitten by rabid animals.

The Surgeon-General accordingly instructed the Director of the Hygienic Laboratory to undertake the preparation of rabies virus in connection with other investigations, and treat any persons who had been bitten by rabid animals and who might apply for such treatment.

The large demand for virus from different parts of the country indicated a widespread distribution of rabies throughout the United States. It, therefore, seemed desirable to determine as far as possible the geographical distribution of the disease as indicated by deaths among human beings and prevalence among animals.

SOME PREVIOUS REFERENCES TO THE PREVALENCE OF RABIES

In 1900 Salmon[3] reported an extensive investigation into the prevalence of the disease. He reported 230 deaths among human beings in seventy-three of the principal cities of the United States during the decade, 1890 to 1899. He also detailed reports of the existence of the disease in man or animals in the twenty-five states as follows:

Massachusetts	Montana	Maryland
New York	Colorado	North Carolina
Pennsylvania	Nebraska	Louisiana
Illinois	Minnesota	Delaware
Iowa	Ohio	South Dakota
Indiana	Alabama	Kansas
Missouri (?)	Tennessee	Oklahoma
Wisconsin	Maine	West Virginia
		Wyoming

From the data presented, he concluded that rabies was much more common than had been supposed.

In 1906 Schroeder,[4] in discussing the prevalence of rabies, presumably in animals, quoted the Chicago *Chronicle* of Sept. 22, 1906, to the effect that rabies had existed during that year in the following fourteen states: Massachusetts, Ohio, North Dakota, South Dakota, New York, Michigan, Connecticut, Indiana, New Jersey, Kentucky, Pennsylvania, Delaware, Illinois and Rhode Island. In addition, Schroeder knew of cases in Maryland, Virginia, North Carolina and the District of Columbia.

In 1908 Hart[5] reported especially the prevalence of the disease in the District of Columbia, and stated that since 1903 positive cases had been diagnosed at the pathological division of the Bureau of Animal Industry

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Ravenel, Mazyck P.: Bull. 79, Dept. of Agric., Pennsylvania, 1901.
2. Peters, A.: Rabies in Massachusetts, Am. Jour. Pub. Hyg., February, 1907, p. 94.
3. Salmon, D. E.: Year-Book Dept. Agric., 1900.
4. Schroeder, E. C.: Circ. 120, Bureau of Animal Industry, 1908.
5. Hart, G. H.: Circ. 129, Bureau of Animal Industry.

from the following states: Virginia, Maryland, Indian Territory, Indiana, North Carolina, South Carolina, Georgia, West Virginia, New Jersey, Maine, and Wisconsin. He also referred to reports of its prevalence in Pennsylvania, Connecticut, Florida, Mississippi, New York, Illinois, and Minnesota, and stated that there was abundant evidence to warrant the statement that not a single state was free from the disease. Interesting facts on the prevalence of rabies are in the appendix to a report[6] issued in 1900 by the Committee on Public Health of the Medical Society of the District of Columbia. Among the localities mentioned is California.

Many similar references might be made to reports of cases and estimates of its prevalence scattered through the literature. The assembling of such isolated references would be of much interest, but it is doubtful if they would render clearer our knowledge of the general prevalence of the disease.

In 1901 Ravenel[7] stated that there was no systematic report of rabies in the lower animals in any state, so that it was impossible to give any idea of the number of dogs or other animals affected yearly. He expressed the belief, however, that the disease was more prevalent than was generally supposed, and that it would increase unless controlled by means of efficient laws.

Moore[8] has also stated that the prevalence of the disease can not be accurately determined as there are no reliable statistics concerning it.

The same statement in a measure applies also with respect to the prevalence of the disease among human beings.

MORTALITY STATISTICS OF RABIES

On account of the almost uniform fatality of rabies among human beings, complete mortality statistics, if available, would give a fairly accurate idea of the geographical distribution of the disease. Unfortunately such statistics for the entire country are not available.

The Bureau of the Census has collected statistics[9] of rabies in the registration area, the deaths by years from 1900 to 1907 being given in Table 1.

TABLE 1.—DEATHS FROM RABIES IN THE REGISTRATION AREA OF THE UNITED STATES, 1900 TO 1907

1900	1901	1902	1903	1904	1905	1906	1907
33	41	45	43	38	44	85	75

The registration area comprised fifteen states, the District of Columbia, and seventy-eight cities, and contained an estimated (1906) population of 40,996,317. The total estimated population of the country during that year was 83,941,510.

The census statistics indicate that in 1906 and 1907 there were almost twice as many deaths from rabies as had occurred in any previous year since 1900. These deaths were distributed as shown in Table 2.

TABLE 2.—DEATHS FROM RABIES IN THE REGISTRATION AREA OF THE UNITED STATES, 1906 AND 1907

	1906		1907	
In Registration Area.	Cities.	Rural.	Cities.	Rural.
Connecticut	5	1	2	1
District of Columbia	0	0	1	0
Indiana	1	4	1	2
Maryland	2	0	0	0
Massachusetts	5	3	3	0
Michigan	2	2	1	2
New Hampshire	0	0	1	0
New Jersey	5	4	1	3
New York	15	1	27	3
Pennsylvania	10	4	2	10
Rhode Island	2	0	0	0
Cities in other states	19		15	
	66	19	54	21

6. Bull. 25, Bureau of Animal Industry, 1900.
Ravenel, Mazyck P.: Bull. 79, Dept. of Agric., Pennsylvania, 1901.
8. Moore, Veranus A.: The Pathology of Infectious Diseases of Animals, p. 406.
9. Mortality Statistics, Bureau of the Census, 1904, 1906-1907.

PRESENT INQUIRY INTO THE PREVALENCE OF RABIES

When prophylactic treatment of rabies was begun by the service in April, 1908, preparations were also made to secure information regarding the occurrence of the disease throughout the country. Every effort was made to secure information regarding cases reported, and a letter was addressed by the Surgeon-General to health officers in every state and requesting their cooperation in the collection of data.

It was not expected that the facts elicited would by any means represent the exact prevalence of the disease, but rather its geographical distribution. This latter information is of importance from a public health standpoint as indicating where preventive measures are most needed and where prophylactic treatment should be made available.

For information regarding the disease, recourse has been had to state and territorial health authorities, including the District of Columbia; county and municipal authorities; the Bureau of the Census; Pasteur institutes, and press reports. Valuable assistance has been received through these agencies.

On account of the large number who furnished data, it is impossible to make personal mention, but acknowledgments are due and here made to all who contributed information, and whose cooperation rendered possible the collection of facts presented.

By making as careful inquiry as possible covering a certain limited period, it was thought that more definite information would be secured regarding the incidence of the disease. The facts collected and presented, therefore, relate only to the calendar year 1908.

Every effort has been made to include only authentic cases among human beings, and it is safe to say that no duplication of cases has occurred.

The same care has also been observed with respect to outbreaks among animals.

Table 3 contains the number of deaths reported among human beings in each state, and the number of localities in each state from which rabid animals were reported.

TABLE 3.—RABIES IN THE UNITED STATES DURING 1908

State.	No. deaths in man.	No. localities in which rabid animals were reported.	State.	No. deaths in man.	No localities in which rabid animals were reported.
Alabama	1	13	Nevada	0	0
Arizona	1	1	New Hampshire	2	7
Arkansas	1	5	New Jersey	11	41
California	0	0	New York	19	52
Colorado	0	1	New Mexico	0	0
Connecticut	1	7	North Carolina	0	19
Delaware	0	5	North Dakota.	0	2
District of Columbia	0	1	Ohio	4	32
Florida	0	11	Oklahoma	3	6
Georgia	3	17	Oregon	0	0
Idaho	0	0	Pennsylvania	14	25
Illinois	2	18	Rhode Island.	1	10
Indiana	5	57	South Carolina	1	5
Iowa	1	5	South Dakota.	0	2
Kansas	2	4	Tennessee	1	7
Kentucky	1	7	Texas	3	15
Louisiana	4	3	Utah	0	0
Maine	0	0	Vermont	0	1
Maryland	6	12	Virginia	1	37
Massachusetts.	5	9	Washington	0	0
Michigan	3	11	West Virginia.	0	2
Minnesota	2	18	Wisconsin	3	42
Mississippi	1	10	Wyoming	0	0
Missouri	8	9			
Montana	0	0		111	534
Nebraska	1	5			

The accompanying map shows the reported deaths from rabies among human beings and outbreaks of the disease among animals.

There are 111 crosses, representing deaths, scattered over thirty states and territories. These crosses are

placed as accurately as possible to show the exact location within the state where the infection occurred. This placing of the crosses was thought preferable for the purpose of this investigation to one in which the place of death would be indicated.

The dots represent 534 localities where rabies in animals was reported to have existed during 1908. They are not placed to represent the exact location of the disease, but indicate rather the number of places in each state where rabies existed. This arrangement was adopted in order to illustrate more strikingly the national prevalence of the disease. It is necessary to state in this connection that the apparent preponderance in certain states must be attributed in part to the receipt of more complete and detailed information from those sections.

Map showing results of inquiry into the prevalence of rabies in the United States during 1908. The crosses represent human deaths, their position showing where infection occurred. The dots indicate towns, etc., where animals were reported infected, the position in state not being shown.

In some states where comparatively meager data are indicated, a large number of rabid animals were reported, but the localities, not being mentioned, were necessarily omitted in order to avoid possible duplication.

The data presented represent foci of infection actually determined and not the number of cases among animals. The number of foci, however, would no doubt be greatly increased if complete reports from the various agricultural and veterinary institutions were at hand.

Practically all of the figures given, however, are compiled from official sources, representing 3,285 replies to inquiries sent out. Press clippings, on the other hand, furnished only a small proportion of the figures, and in no instance did a press report lack official confirmation. This is contrary to the general opinion that the cases reported in newspapers are usually without foundation.

The most striking feature brought out is the very general distribution of the disease throughout the Eastern portion of the country, and its almost complete absence from the extreme Western part, especially the Rocky Mountain and Pacific Coast regions. It must be remembered, however, that these sections, apparently free from rabies during 1908, have not always been exempt, cases having been reported by previous investigators from Montana, Colorado, California and Wyoming. The animals reported as having been affected were dogs, cats, wolves, horses, cattle, sheep, hogs, squirrels, and skunks.

It was among skunks that the disease was reported in Arizona, and the single death among human beings in that state followed the bite of one of these animals.

Dr. William Brumby, Health Officer of Texas, in a discussion of this subject at the Conference of State and Territorial Health Officers with the Public Health and Marine-Hospital Service, referred to the frequency of the disease also among skunks in western Texas and the dangers of the transmission of the disease through the agency of these animals.

Reports received from various sources indicate that a large number of laboratory diagnoses were made of the disease among animals during the year, but it was impossible to include many of these cases in determining the foci of infection for reasons previously mentioned.

FACILITIES FOR TREATMENT OF RABIES IN THE UNITED STATES

The reports thus far secured indicate that nearly 1,500 persons took the Pasteur treatment during 1908 on account of having been bitten by rabid, or supposedly rabid animals. On account of the futility of legal measures for the suppression of the disease, resort to prophylactic treatment to this extent was rendered necessary.

Pasteur treatment was no doubt a potent factor in the prevention of human deaths from this disease, but it must be regarded as a temporary and costly expedient to be maintained to save lives only until such time as more effective measures of attacking the disease at its root are being perfected and put in operation.

On inquiry, it has been ascertained that the Pasteur treatment is being given at present at the following institutions:

PASTEUR INSTITUTES, OR THEIR EQUIVALENTS, IN THE UNITED STATES

Montgomery, Ala.	Under State Board of Health.
Newark, Del.	Under State Board of Health.
Washington, D. C.	Hygienic Laboratory, Public Health and Marine-Hospital Service.
Jacksonville, Fla.	Under State Board of Health.
Atlanta, Ga.	Two institutions, one of them under the State Board of Health.
Chicago, Ill.	
Indianapolis, Ind.	Two institutions.
Iowa City, Iowa.	Under State Board of Health.
New Orleans, La.	
Baltimore, Md.	
Ann Arbor, Mich.	Under Board of Regents, State University.
Minneapolis, Minn.	Under State Board of Health.
St. Louis, Mo.	
New York City.	Two institutions, one of them under the municipal government.
Raleigh, N. C.	State Laboratory of Hygiene.
Pittsburg, Pa.	
Marietta, Pa.	
South Carolina.	One to be opened in July, 1909, under State Board of Health.
Austin, Tex.	Under State Board of Health.
Richmond, Va.	

There are thus over twenty institutions located in nineteeen states prepared to give Pasteur treatment, twelve of them being under official auspices.

VIRUS FURNISHED BY THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

Since April, 1908, the U. S. Public Health and Marine-Hospital Service has been treating, free of charge, exposed persons who applied at the Hygienic Laboratory, Washington, D. C. At the close of the calendar year, ninety-nine persons had availed themselves of the privilege. In addition, virus has been furnished to state health authorities on their request and for administration under their direction.

The treatment of persons at a distance from the laboratory by means of virus, forwarded when necessary under the system maintained, has proved entirely satisfactory. By this means a supply of virus is made available at all times, and especially to persons unable to secure it themselves because of financial limitations.

The treatments are shipped by mail in response to telegraphic request, and on arrival are both pure and potent. Slight delay in delivery has seemed to cause no appreciable decrease in potency, a considerable number of treatments having been sent to the Isthmian Canal Zone and used there with complete success.

The Pasteur treatment is undoubtedly a powerful factor in preventing mortality, but the necessity for it will be obviated when measures for the suppression of the disease among animals become effective.

That the extinction of rabies is a possibility is a matter of historical knowledge, as evidenced by the brilliant results of effective legislation in England and other countries.

The prevalence of rabies to the extent shown by this inquiry is evidence that further measures of suppression are necessary. It is pertinent in this connection to refer briefly to the measures authorized in certain states concerning which information is at hand.

In Connecticut a state law requires the registration and tagging of dogs and the destruction of dogs not registered and tagged. Local health officers are required to report the occurrence of rabies to the Commissioner on Domestic Animals, who may make regulations to check the spread of the disease, such regulations to be published and obeyed under penalty of fine. A state law also provides for Pasteur treatment when necessary at state expense. On the oath of a physician that the treatment is necessary it is furnished at the expense of the town, the town being reimbursed from the state dog license moneys.

In Delaware, patients are treated by the State Board of Health at cost.

In the District of Columbia, the District Commissioners are required to issue a muzzling ordinance on the occurrence of rabies. Exposed persons are treated at the Hygienic Laboratory, Public Health and Marine-Hospital Service, on application, and treatments are mailed free, on application by state health authorities.

In Florida, the duty is placed by law on the State Board of Health to prevent the importation and spread of rabies. The Pasteur treatment is administered under the general statutes by the State Board of Health at the patient's home.

In Indiana, the state veterinarian is authorized to order the muzzling of dogs on the appearance of rabies.

In Maine, the state law empowers the State Board of Health to make regulations preventing the introduction and spread of rabies.

In Massachusetts, the powers to take measures are delegated to the Cattle Bureau, except in the City of Boston, where the Board of Health has this authority. A resolution recently approved in the legislature provides that the State Board of Health shall cause suitable provision to be made for the treatment of rabies in man by appropriate remedies, and shall report as to the expense and advisability of preparing these remedies under the direction of the State Board of Health.

In Michigan, the prevention of rabies is provided for in the law relating to diseases in cattle, and indigent persons are treated at the expense of the township, city or village.

In Minnesota, by a regulation of the Sanitary Live Stock Board, a muzzling order may be issued by local boards of health where rabies exists. A state law provides for the free treatment of residents of the state, a special appropriation having been made for that purpose.

In New Hampshire, a law permits the local authorities to cause all dogs to be muzzled for such period as may be determined.

In New Jersey, laws provide for the issuance of a muzzling ordinance by the mayors of incorporated towns and the destruction of unmuzzled dogs; also for the notification to the State Board of Health of contagious or infectious diseases among animals, the investigation of reports by the board, and the taking of such precautionary measures as may be deemed necessary.

In New York, the restriction of the disease is placed under the control of the State Commissioner of Agriculture. A law provides that patients may be sent to New York for treatment at county expense.

In Rhode Island there is no state law controlling rabies. When the disease exists the local councils require the muzzling of dogs for a certain period.

In South Carolina, a law provides that the health officers shall, in case rabies exists, place restrictions to prevent its spread.

In Vermont, the public statutes empower the State Board of Health to make regulations to muzzle dogs when rabies is found, and to kill unmuzzled animals.

These serve to illustrate briefly the measures in use. A considerable number of states seem to have no provision for the institution of measures against rabies, while from others no data have as yet been received.

Notwithstanding the beneficent intent of these state laws and the good results to be expected of them, it is a matter of common observation that their enforcement is too often, through neglect or inability to overcome the obstacles which always appear, more of a failure than an effectual application of suppressive measures.

SUMMARY

To summarize briefly the results of this inquiry, there were 111 deaths in human beings from hydrophobia reported from 30 states during the year 1908. Rabies was reported in the lower animals from at least 534 localities in 39 states and territories, including the District of Columbia. Evidence has also been secured of nearly 1,500 persons who, on account of exposure to rabies, or presumably rabid animals, were obliged to take the Pasteur treatment.

The disease is disseminated throughout the Eastern three-fourths of the country, and seems to have been unknown during the past year only in the Rocky Mountain and Pacific slope regions.

The suppression of rabies in man merely affords another instance of the necessity of eliminating a like disease from among animals.

This means the destruction of infected animals and the proper muzzling of all dogs in infected areas.

ABSTRACT OF DISCUSSION

DR. H. M. BRACKEN, St. Paul: I hope that Dr. Kerr will revise the map before it is published. It is not quite fair to Indiana that it should appear to be so much worse than all other states, some of which undoubtedly have as much rabies. Probably Minnesota would be as badly spotted as Indiana is if all the cases of rabies had been reported. In Minnesota the reporting is under two departments, the Live Stock Sanitary Board and the State Board of Health. This map illustrates what I have always maintained, viz., that it is a mistake to have two sanitary boards, one for animals and the other for humans. Under the present Minnesota law the State Board of Health has no interest in a rabid dog until it bites a human being. There is a Pasteur Institute in Minnesota, where during the past year over 200 human beings were given prophylactic treatment. All had been bitten by a rabid (or supposedly rabid) animal. In a few instances we were not able to get the head of the biting animal, and therefore could not prove rabies, but a large percentage of the individuals were shown by the findings to have been bitten by rabid animals. I think the Minnesota State Live Stock Sanitary Board would be glad to furnish Dr. Kerr with the number of cases of rabies on its records, and I know that Dr. F. F. Wesbrook, director of the laboratories (and Pasteur Institute) will be glad to give data for the State Board of Health. I am glad to know that the material for prophylactic treatment put out by the United States Public Health and Marine-Hospital Service is to be sent only through boards of health. I do not think it is safe to put the prophylactic treatment for rabies in the hands of every physician in the country. Health officers know who the competent physicians are, and if a dog has bitten a person and prophylactic treatment is to be given, the health official is the proper one to determine who shall give the treatment. In Minnesota, when prophylactic treatment is necessary, this is given at the Pasteur Institute free of charge to residents of the state.

It may be interesting to know that in Minnesota the attorney general has given a ruling that the control of rabies comes under the same law as other communicable diseases, and, therefore, the expense connected therewith falls first on the municipality (city, village or township, as the case may be). The bitten person, if poor, does not have to stop and ask where the money to pay for traveling expenses, board, etc., is to come from. The local board of health sends the individual to the Pasteur Institute at once and the question of who shall pay the bills finally is determined.

DR. W. M. BRUMBY, Austin, Texas: I notice that very few cases have been reported from Texas, which I regret. So long as we have had so many cases, it is unfortunate that Dr. Kerr did not have the opportunity of making a better report possible from our state. The Pasteur Institute, however, is not under the state health department, but under the superintendent of one of the insane asylums. As many as 1,350 cases of hydrophobia have been treated at that institution in a little less than the last five years, with 6 deaths. The patients who died were invariably bitten fearfully, lacerated or macerated, many bitten as frequently as from 25 to 50 times, if I am not mistaken; 5 or 6 were children. At our institution the officials prepare their own specimens, and have been very fortunate in their work; very few instances of any septic trouble resulting are known. There is a uniform charge of $25 in each case—each patient treated; unless, of course, the patient is in needy circumstances, when no charge is made.

In 75 per cent. of the cases the individuals were bitten by skunks. There is more hydrophobia in west Texas, Arizona and New Mexico, apparently, in proportion to population, than east of that point. It is asserted that a certain skunk is very susceptible to this disease and it is known as a "hydrophobia cat." These animals have rabies and die with it. About 2 or 3 per cent., possibly, of the patients bitten, were bitten by wolves. Our institution at present has 27 or 28 rabies patients in it, and has had constantly, for the last twelve months, from 22 to 32 cases at a time. I forgot to get the exact number of cases treated last year; but I am pretty sure that there were about 400 such patients treated in the last 12 months in Texas, 80 per cent. of which were from the state of Texas. Others came from Mexico, New Mexico, Arizona and Louisiana.

DR. JOHN F. ANDERSON, U. S. Public Health and Marine-Hospital Service: It has been decided that in the lack of any special arrangements it was not wise to send out the emulsion ready for use; although that is done by some of the commercial firms, who send it out in a modified thermos apparatus. We sent out our cords, each treatment being in a separate glass vial. This is sent out to the state health laboratory, with full directions showing how the emulsion should be prepared, and stating the scheme of treatment—either mild or intensive. We have adopted the Berlin scheme; that is, the most attenuated cord we use is the one dried 8 days; whereas, in the Pasteur method, the 14-day cord was used in the beginning. In the Pasteur method, the 2-day cord is only reached at the end of 7 days; we reach it in 4 days; and in the intensive treatment the 1-day cord, which is given only once, is reached on the fifth or sixth day. It is interesting that Ferran in Barcelona has reported some good statistics in which he uses the fresh cord from the rabbit; so, after all, we may be losing a good deal of time in drying our cord and not taking it immediately from the rabbit.

DR. W. FORREST DUTTON, Walker's Mills, Pa.: Within the last few months there have been 25 or 30 cases of rabies in western Pennsylvania. I do not know what is ascribed as the cause; the disease seems to me to be increasing at a rapid rate. There is an efficient Pasteur institute in Pittsburg, but it does not seem to affect the increase in the rate at all. I do not know whether it is the fault of the authorities or some unseen thing that we have to deal with.

DR. M. F. GATES, U. S. Navy: Have any experiments been undertaken at the Hygienic Laboratory or elsewhere, with a view of determining whether or not there is any persistent infection in animals or men apparently cured or recovered from rabies, and to ascertain whether it is possible to redevelop a virulent virus from these cases? It seems to me that, in view of the tendency toward the injection of sera containing living organisms, this is an important point.

DR. JOHN W. KERR, Washington, D. C.: I shall be glad to revise the map to date if anybody will be kind enough to furnish additional information of definite location where rabies

was found in 1908. To secure the data presented, over 7,000 inquiries were sent out, and in some instances we have received duplicate reports. In order to avoid misrepresenting a particular state or locality, therefore, we have had to exercise great care, and probably have had a few more reports of infected localities than are shown on our map.

Rabies is a striking disease because of the method of its transmission and uniform fatality. On this account, and on account of the relatively few cases that occur, one would suppose it to be, and it probably is, the easiest disease concerning which to get accurate information. I assure you, however, that a collection of definite data of this disease has been extremely difficult to secure, and this only represents the great difficulty of collecting morbidity and mortality statistics for the entire United States.

Dr. Stimson, my associate in this work, has had entire charge of preparing the virus, and he has made a special study of it, whereas my part of the work has been in connection with the collection of the statistics.

DR. J. N. HURTY, Indianapolis: Indiana is very well spotted on the map. The reports come in very promptly since we had a symposium on the subject of hydrophobia in our health officers' school, which is held whenever the state board commands. We tried to get a law that would prevent hydrophobia. The idea was to place a heavy tax so as to get rid of all miserable curs, and then only the well-bred, well-cared-for animals would be kept. The bill failed to pass. At Bloomington, Ind., where the state university is located, and where there are from 2,000 to 3,000 students, it was found that in each fraternity house there were from 2 to 4 bulldogs. In one "frat" house a bulldog went mad and infected 21 boys. They all took the Pasteur treatment, and none of them had the disease. With all this horrible experience, the people can not be brought to the point of handling the dogs so as to prevent hydrophobia. I do not know that we can attribute it to stupidity. The people there are students of science and the college has a highly cultured faculty; and yet they will not take steps toward controlling the dogs, the source of the hydrophobia. When we consider educating people in preventive medicine, this experience is rather discouraging. Our statistics show that 3 per cent. of the cases of hydrophobia reported proceeded from cats. Cats and dogs only. We have no record of any other animals imparting hydrophobia.

One of the deaths at Indianapolis occurred eleven months after incubation. A woman's pet dog bit her; the dog afterward died of some disease not known—it may have been hydrophobia; and then the woman developed hydrophobia and died. The physicians who attended (I did not see the case) are confident that it was hydrophobia.

DR. M. FREDERICK, Cleveland: We had an epidemic of rabies in Cleveland, so much so that at the present time every dog that bites is placed under the care of a veterinary surgeon at the owner's cost. The city treats every person bitten by a rabid dog free of charge. They are not guarded in an institution. They are allowed to go about their business. Any intelligent physician can administer the treatment. There is no need of sending these people hundreds of miles over the country. A physician who can inject antidiphtheritic serum can also inject antirabic serum.

DR. W. LITTERER, Nashville, Tenn.: Prior to 1900, rabies was a very rare disease in Tennessee. Since that time it has been progressively increasing, until now there are reported more than 100 cases occurring every year in dogs alone. I am sure I could put on the chart 100 dots as well as 3 crosses. One case occurred in Nashville; the patient died recently from typical rabies. I made an autopsy and found the Negri bodies in the cerebellum, in the hippocampus major and in other parts of the brain. A portion of the brain was emulsified and subdural injections made in 3 rabbits and 3 guinea-pigs; they all died from rabies in from 15 to 21 days. The pigs died sooner than the rabbits. When one studies this disease carefully, I am at a loss to know how anyone can doubt its existence. I want to call attention to the prevailing idea, especially among negroes and uneducated whites in my section of the country, concerning the therapeutic value of the madstone when one has been bitten by a rabid animal. The madstone is said to be an enterolith from the deer and is applied to the wound. Owing to its porosity it will stick and when put into milk it is said to turn the milk green. This performance is impressive to many of the lower classes and a number resort to this mode of treatment. I wish to say that such a practice is pernicious. In the first place, it creates in the mind a false security, and secondly, I have in mind a case in which the madstone actually produced the disease. It occurred after the following manner: A man was bitten on the hand by a rabid dog and a madstone applied; several hours later a vicious bulldog (not rabid) bit a 5-year-old child severely on the cheek. The same madstone was applied to the cheek of the child. In twenty-two days the child died from typical hydrophobia. No autopsy was allowed. The bulldog is living to-day, showing that the disease could not have been transmitted by it, but that the only means of transmission was by carrying the virus from one person to another by means of this madstone. As I said before, such a practice is pernicious and should be controlled by legislation.

DR. A. C. ABBOTT, Philadelphia: From a limited experience with this disease in Philadelphia, I am convinced that the suggestions of Dr. Friedrich of Cleveland are both important and practical. The value of the treatment is no longer under debate. The time at which the treatment should be given is of immense importance. To waste time in discussing how the means are to be raised for a patient bitten by a rabid animal to go to a Pasteur institute, is, in my opinon, not justifiable. I do not think we should pause to determine who is to pay for this treatment. If the community wants to get rid of the disease and save the patient, it can fairly have the cost of this treatment charged up against it.

The plan that we have followed in Philadelphia in a small number of cases—some of which were certainly hydrophobic, some of which were doubtful in my mind, but which I considered of sufficient gravity to give the patient the benefit of the doubt—has been this: We have secured, at the expense of the health department of the city, materials from reliable laboratories (usually from the New York laboratory), and have detailed one of the physicians of the health department to administer the treatment. We have not had a single death in a number of cases, how many I can not state precisely, but probably twelve would cover them all. They were among people who could not have raised the means to go to New York and remain there long enough to get the treatment; and had they not received the treatment in the way given by us, they would not have received it at all; and I am convinced that there would have been some fatalities. As it was, there was no fatality. We pay $25 for material enough to treat a single case. I do not know the terms under which the emulsion can be secured from the government laboratory.

DR. H. M. BRACKEN: It is free.

DR. A. C. ABBOTT: I feel, therefore, that it is advisable for those in authority to keep a small supply of this material on hand for emergencies. There is no difficulty whatever about the injection; and so far as the results of the injection are concerned, as Dr. Friedrich says of the Cleveland experience, we had no more bad results than one would get from the injection of antitoxin for diphtheria.

DR. JUAN GUITERAS, Havana, Cuba: This disease also extends to Cuba. We had been several years without any cases of rabies until last year, when there was a remarkable increase; and there was just as remarkable a falling off after the law in regard to street dogs was put in force. The disease is now rapidly dying out. We have a Pasteur institute there; and the patients receive the treatment with great success.

Clean Milk.—Preventive measures are better than corrective ones. Pasteurization can not atone for filth. Milk should be produced under clean conditions and kept clean, and it would not then have to be purified. But we must guard against enemies so long as they exist. We would all like to do away with the necessity for armies and navies, but present conditions demand their maintenance. The same is true of harmful bacteria in milk; so long as the average market milk is apt to contain these insidious foes, the only protection we have is to destroy them with heat.—M. J. Rosenau, in *Annals of Medical Practice.*

A NEW TYPE OF PHTHISIOPHOBIA *

S. ADOLPHUS KNOPF, M.D.

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NEW YORK

In these twenty years of work in tuberculosis and with the tuberculous, I have come across a good many types of phthisiophobia. There is, first, the general phthisiophobia, that is to say, the exaggerated fear on the part of the layman of the presence of the consumptive. All physicians who have had anything to do with tuberculosis have seen this type of phthisiophobia. Then there is a phthisiophobia of communities which object to the establishment of sanatoria, tuberculosis dispensaries, day-camps, or even open-air schools. Nearly all our state commissions which have been entrusted with the establishment of sanatoria, have encountered this phthisiophobia, which has its origin in the fear that a sanitary or financial danger may arise to the neighborhood wherein such an institution should be established. In my books and articles[1] I have protested against this type of phthisiophobia more than once and have been able to demonstrate conclusively by statistics that the mortality from tuberculosis among the inhabitants in or near communities where sanatoria have been established has always decreased after the opening of the institution, and continued to decrease.[2] Furthermore, the financial prosperity of the community has been improved as compared with what it was before the establishment of the sanatoria in such localities.

Heretofore, phthisiophobia usually originated in the minds of laymen, although some years ago a young physician,[3] first quoting a number of other authors and then stating his own experience, denounced the average consumptive as having mental peculiarities which manifest themselves in psychasthenia, the loss of self-control, the rise of brute selfishness, all combining to distort the clearness of ethical perception. It was not very difficult to reply to this unjust, totally unwarranted, and unscientific accusation.[4] The best men in our profession came to my assistance. Such men as Osler, Biggs, Janeway, Trudeau, Otis, Tyson, and others gave the benefit of their experience, all showing conclusively that the average consumptive, far from being below the usual moral standard, more often has a higher ethical and humane conception of his duties toward his fellowmen.

Therefore, it was with a genuine feeling of sadness that I read in the *Survey* (New York) of May 22 and in various Oklahoma newspapers that the State Board of Medical Examiners of Oklahoma recently decided to refuse granting licenses to practice medicine to all physicians afflicted with tuberculosis. To justify their position it was held by the board that the interests of the patients demanded this action.

I confess that in all my experience with phthisiophobics I have never heard of such an inhuman, cruel decision. How often has it not been proved that the clean, conscientious, and trained consumptive is not a danger to his fellowmen, but is as safe to associate with as anybody else! Who in the world, in the name of justice and fair play, can be better trained, more careful, or conscientious than the physician who is afflicted with tuberculosis? I have had as internes in one of the great German sanatoria, and in later years as private patients, a goodly number of consumptive physicians, and, while I am willing to concede that they were by no means model patients when it came to resting when they ought to have rested, not once can I recall an instance when they were not scrupulously clean and careful with their expectoration, and in their general behavior the last persons who could propagate the disease.

Last, but not least, what would be our medical science of to-day, where our modern therapy of tuberculosis without the tuberculous physicians—a Laennec, a Brehmer, a Dettweiler, a Grancher, a Solly, a Trudeau, or the hundred others who, because they were tuberculous, devoted or are devoting their lives to saving others from falling victims to the same disease? Laennec taught us to auscultate the tuberculous chest; Brehmer founded the first sanatorium for the tuberculous in Germany and proved more than anybody else the curability of tuberculosis when he defended his celebrated thesis, *Tuberculosis primis in stadiis semper curabilis* (tuberculosis is always curable in its first stages). His most illustrious pupil, Geheimrath Dettweiler, my own immortal teacher, who elaborated on Brehmer's system by adding the rest cure, realizing the need of the greatest precautionary measures in sanatoria, invented the first pocket flask as a receptacle for tuberculous sputum. Anxious to let the masses also be benefited by the invaluable sanatorium treatment, he became the founder of the first sanatorium for the consumptive poor in Germany. And Grancher, one of my French masters, how much are we not indebted to him for proving the pathologic unity of tuberculosis long before Koch's discovery of the bacillus! How much do we not owe him for his clinical description of incipient tuberculosis, and what a beautiful example of brotherly love did he not exemplify when, though childless himself, he created and endowed the work of preserving children against tuberculosis (*œuvre de la preservation des enfants tuberculeux*).

Solly, a consumptive English physician, sought and found in hospitable Colorado and among the fraternal members of the medical profession of Colorado Springs a welcome and a home. He became an American and added glory to the American medical profession by his antituberculosis labors and climatologic studies. His book on climatology is one of the classic productions of the day on this subject.

I name our own Trudeau last, not that he is the least, but perhaps the greatest of them all, for if there ever was a tuberculous physician who typified all that is best in man and in our profession surely he is the one. Twenty-five years ago he arrived, a tuberculous invalid, in the Adirondack wilderness. He was not content to cure himself, but immediately set about to help others, and by hard work and study and with a heart for suffering humanity he has become one of the greatest authorities in the therapy of tuberculosis and the pioneer in the sanatorium treatment in the United States. Thanks to his indefatigable labors there exists to-day at Trudeau, the place named after its founder, one of the most flourishing and beautiful sanatoria, comprising over

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Tuberculosis, Its Modern Prophylaxis and the Treatment in Special Institutions and at Home, P. Blakiston's Son & Co., Philadelphia; Tuberculosis, in Twentieth Century Practice of Medicine, xx and xxi, Wm. Wood & Co., New York; Tuberculosis as a Disease of the Masses and How to Combat It, The Survey, New York; Public Measures in the Prevention of Tuberculosis, in American Treatise on Tuberculosis, D. Appleton & Co., New York; Tuberculosis a Preventable and Curable Disease, Moffat Yard & Co., New York.

2. The Sanatorium for Tuberculous Patients, Its Medical and Social Mission, New York Med. Jour., Oct. 21, 1905.

3. Saxe, G. A. De Santos: Psychical Relation of Tuberculosis in Facts and Fiction, New York Med. Jour., Aug. 1 and 8, 1903.

4. A Plea for Justice to the Consumptive, Med. Rec., New York, Jan. 2, 1904.

twenty cottages, infirmary, administration building, church, library, laboratory, etc.

I have named only six of our great therapeutists and antituberculosis workers who, though themselves tuberculous, saved, by their devotion to the cause, by their labor for science and love for humanity, thousands and thousands of consumptive sufferers who without their skill would have been doomed. But what would the places be where these men chose to reside had they not been made famous by the cures wrought by these tuberculous men of science? It was Brehmer who gave the reputation to Goerbersdorf and made of the sleepy village a prosperous town. Dettweiler did the same for Falkenstein. Solly added to the reputation of Colorado Springs, and Grancher to that of Pau, in the Pyrenees, while Saranac Lake, now one of our greatest American health resorts, certainly owes its prosperity to Trudeau.

But what we are most concerned with is not the economic but the purely humane and scientific consideration of Oklahoma's attitude toward tuberculous physicians. Scientifically, the decision of the Oklahoma State Board of Medical Examiners can not stand the test. Tuberculosis is the most prevalent of all diseases, and it has been demonstrated at the autopsy table that almost all of us either have or have had a little tuberculosis at some time or other in our lives. Physicians are not exempt from the disease, and many a one would have to lay down arms and retire should this cruel law of Oklahoma become universal.

And now one more word as to the humane consideration. The majority of tuberculous physicians were well and strong when they entered the profession of the healing art. When they contracted tuberculosis they contracted it in the performance of their duty. In my own life I can count, indeed, altogether too many whom I know became consumptive from overwork and exposure to infection. They had taken tuberculosis from others, but I know they have never given it. They have saved many lives and effaced centers of infection, but never became themselves a source of infection. To reward these men by excluding them from practice, by excluding them from any locality where they may recuperate, do good to others and support their own families, is the most cruel and most inhumane action conceivable by one physician toward another.

The medical profession of the State of Oklahoma can not afford to have the distinction of having created a new kind of phthisiophobia which is cruel, unkind, unjust, and certainly not fraternal. The authorities of that great state can not afford to have the unique stigma of inhumanity and selfishness, not to say lack of wisdom, attached to the fair name of Oklahoma. If the medical board of that state should maintain its attitude, I would consider it a reflection on the medical profession of the whole United States. And it is in the hope that the Oklahoma State Board of Medical Examiners may be induced to reconsider this decision by learning the sentiment of the American medical profession at large on the subject that I ask this Section to adopt resolutions,* for recommendation to the House of Delegates.

16 West Ninety-fifth Street.

*EDITOR'S NOTE: Dr. Knopf's resolutions set forth that the clean, conscientious, and trained consumptive is not a menace to his fellowmen, and that the scientific knowledge of tuberculosis has been vastly increased by physicians of the past and present who have been afflicted with tuberculosis; and expressed the regret of the Section at the action of the Oklahoma board and the wish that the restriction be withdrawn. The resolutions were referred by the Section to the House of Delegates, which body referred them to the Reference Committee on Hygiene and Sanitary Science, but no report was returned from that committee, so no action was taken by the House.

A SIDE-LIGHT ON THE ORIGIN OF TABES

DRAWN FROM A COMPARISON OF TABES WITH DIFFUSE SPINAL DEGENERATION AS SEEN IN CERTAIN ANEMIAS AND KINDRED DISORDERS OF NUTRITION *

JAMES JACKSON PUTNAM, M.D.
BOSTON

The opinion that syphilis is the usual cause of tabes is now almost universally accepted. Yet there still remains a certain percentage of cases for which the proof of this etiology is lacking, and students of the subject still seek for other influences, which may claim to share with syphilis the right to be considered as real causes or to represent agencies without the concurrent action of which the disease would not have occurred. The most prominent of these rivals of syphilis to the claim of being real or virtual causes of tabes is fatigue, in Edinger's sense; that is, not necessarily fatigue which is felt, but physiologic overstrain of special portions of the nervous system, carried to the point of seriously damaging the power of nutritive repair of the parts concerned.

I have myself seen, as we all have, cases in which, under the influence of severe exertion, tabetic incoordination has come on in an acute form. But I have seen exactly the same thing happen from severe and general nervous shock, unattended by physical exertion or by any obvious local strain, and, on the other hand, my personal observation has not led me to the view that local overstrain should count either as an exclusive cause of the tabetic degeneration or as capable of determining to any great extent the direction in which it will develop. I admit that these two opinions do not stand on precisely the same footing. The argument for the view that fatigue and local overstrain can not be adjudged sole causes of tabes is much stronger than the argument that they can not be regarded as capable of determining the direction of development of the degeneration. Still, the evidence is far from being overwhelming that one form of tabes is characteristic of brain-workers, another form, of muscle-laborers. We know as yet so little of the developmental influences or the influences related to local nutrition which so obviously help to make the optical apparatus more sensitive in one case, the sensory apparatus concerned in locomotion more sensitive in another case, that the argument for fatigue should not be accorded too much weight.

The failure of syphilis to cause multiple neuritis, in view of the facts that so many toxic agents do cause it and that syphilis exerts such widespread damage elsewhere, affords a cause for wonder, and both sets of facts intensify the suspicion that the really decisive causes of localization, where the syphilitic or the antisyphilitic virus is at work, lie deeper than the localizing influence of fatigue.

At all events, these two questions, whether syphilis is to be rated as the sole real cause of tabes, and as to the part played by fatigue, are still open for debate, and it has seemed to me that some light could be thrown on them by contrasting the tabetic group of cases with another group which bear, clinically, and also as regards the localization of lesions, a certain resemblance to tabes, and, like tabes, owe their characteristics to certain toxic influences, yet which are seen to differ widely from tabes when intimately studied.

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The group of cases to which I refer are those presenting anatomically that form of degeneration of the central nervous system which sometimes accompanies pernicious anemia and which other observers and I have reported as occurring in conditions of nutritive debility not easily classifiable in one category.

The nervous symptoms characteristic of these cases resemble those of tabes in that they affect primarily and mainly the sensory or afferent functions of the nervous system, and thus lead to well-marked incoordination and paresthesias, usually with loss (though sometimes increase) of the knee-jerks.

If, now, the syphilitic infection so frequently met in conjunction with tabes was present mainly or wholly as a matter of coincidence, we might expect to find it present in this latter group of cases also, with at least reasonable frequency. But although I have seen, in hospital or private practice, nearly or quite a hundred instances of this disorder,[1] I have no record of a single case of undoubted syphilis. It is true that the majority of these patients have been women, and it is, of course, quite possible that an occasional instance of syphilitic infection may have been overlooked. In spite of these considerations, however, the contrast between these two groups of cases in respect to the frequency of syphilis is certainly very striking.

Still more striking is the evidence furnished by the comparison of these two sets of cases from another standpoint. The symptoms and lesions of tabes, although numerous, are singularly well defined and characteristic, and much the same may be said of the symptoms and lesions of the "diffuse degeneration." The two sets of cases resemble each other in various respects, but this resemblance is only superficial. In reality both disorders "run true" and show no tendency to overlap or even to approach each other. It is difficult to believe that this statement would be justified if each disease was due, not to one cause, but to any one of several different causes, and especially if the same influence, namely, fatigue, played any considerable part in both cases. Stated in other terms, the argument is as follows: We are dealing, here, with two disorders resembling each other superficially in certain respects, but at the bottom very different from each other, and each "running true" to a remarkable extent. Two hypotheses are advanced to explain their genesis, namely, (a) that they are due, respectively, to special toxins, modified and accentuated doubtless by fatigue and other influences, but not essentially modified; (b) that they may arise as the result of any one of various toxins or other causes, and that fatigue, or nutritive overstrain in particular, may play a notable part in determining the outcome. If the first hypothesis can be accepted the definite character of the two disorders is readily intelligible, and it need excite no wonder that they approach each other in some respects and yet do not really overlap. If the first hypothesis must be rejected and the second can be accepted, these facts are hard to understand. It would be going too far to say that the facts are unintelligible under the second hypothesis, because, of course, it may be that the tabetic degeneration and the diffuse degeneration of pernicious anemia do not owe their peculiarities, in any case, to the action of specific poisons, but represent only particular modes of breaking down of the nervous system under strain. This is probably the explanation of the neuroses, such as migraine. But if this is so and we are not dealing, in the case of the two disorders under consideration, with the action of specific poisons, analogous to diphtheria, but with native tendencies to particular forms of giving way of the nervous system, inducible by various causes, then it is hard to comprehend why syphilis appears to play such an important part in tabes and so trifling a part in the diffuse degeneration. It is also hard to comprehend, on this hypothesis, why these two disorders or modes of breaking down, implying special sorts of weakness, do not oftener coincide. Patients with migraine have also epilepsy at times, and show neurasthenic and hysteric tendencies, but tabetics do not have diffuse degeneration. This is especially striking in view of the consideration that fatigue, if it is an effective agent in inducing tabes, ought to be doubly prone to cause the diffuse degeneration, because it would find itself reinforced by its natural allies, anemia and nutritive debility.

In view of these considerations, taken in conjunction with the evidence already brought forward with relation to the frequency of syphilis in tabes in men, women and children, I think that the argument for a special toxin (or antitoxin) as the essential cause of the disease, while not proved and not to be asserted as positive for every case, is nevertheless a very strong one and deserves especial recognition as a guide to treatment.

106 Marlboro Street.

1. Cf. A Group of Cases of System Scleroses of Spinal Cord, etc., Jour. Nerv. and Ment. Dis., February, 1891; Diffuse Degeneration of the Spinal Cord, Am. Neurol. Assn., May, 1900.

ABSTRACT OF DISCUSSION

DR. C. L. DANA, New York: I suppose we all agree in the main with Dr. Putnam in regard to the relation of syphilis to tabes; however, we are not only neurologists but also physicians and are dealing with practical and human questions. It happens that I have seen families almost disrupted and even insanity produced by the bald assertion made to the patients, or indirectly to the patients, that because he has tabes he must have had syphilis. If, therefore, there is any justification in our assuming the position that a certain percentage of cases of tabes may be caused by something else, I think we ought to hold on to that view. I think it is an extremely painful sort of position often nowadays to make a diagnosis of tabes. At least one-third of my patients who have tabes honestly do not believe they have ever had syphilis; and yet if they have tabes must I say to them: you must have had syphilis? I should say no. And at any rate there is certainly a syphilis insontium which runs its course without the patients knowing it, and that fact ought to be acknowledged by us and used to soften the situation.

DR. F. W. LANGDON, Cincinnati: I agree that this question of what might be called the ethical relations of the diagnosis are so important that we should give the patient the benefit of the doubt. But there is another and very much stronger reason in that so careful and conservative, and we may say, prosyphilitic advocate as Gowers, positively states that in 10 per cent. of cases of tabes, syphilis can be absolutely excluded. Others give a much larger percentage of exclusion. But that statement of Dr. Gowers is well worthy of consideration in any discussion of this kind.

DR. C. C. HERSMAN, Pittsburg, Pa.: It is well known that the foreign laboring class is a prolific source of the initial lesion of syphilis, and that this class receives but little treatment after the disappearance of the lesion, and yet tabes is not very frequent among these people. Now is the syphilis the cause of the tabetic condition or is it the mercury and iodid or whatever the treatment has been? Also the colored race, possibly the most fruitful source of specific infection, with little attention, is seldom seen suffering from tabes. Those who come to us for tabetic or paretic treatment give a history of from six months to two years' treatment, and often a time at the springs, and they are doomed in spite of the treatment.

DR. JULIUS GRINKER, Chicago: Fatigue seems to exert a powerful influence in the production of tabes. Some years ago I examined a woman whose husband had infected her with syphilis and then died of some lung trouble. Being obliged to support her family, the poor woman exerted herself to the utmost, taking in washing at first, later working in the capacity of book agent, which necessitated being on her feet almost constantly. In due time she developed tabes. Her three children, the subjects of congenital lues, suffered from nervous syphilis or parasyphilitic disorders. The oldest boy, an intelligent lad of 19, showed signs of juvenile paresis and died within a year and a half from the development of the first symptoms. Another child, a girl, developed luetic endarteritis, which was followed by thrombotic hemiplegia and death from gummatous meningitis. The only surviving member of this syphilitic family is a blind tabetic boy who peddles newspapers in Chicago. In this family, reported by me in 1904, the element of fatigue seems to have played an important part in determining which part of the nervous system shall become affected. The mother, a hard-working woman, who was in the habit of walking and standing most of the time, developed tabes. The most intellectual of the family, a bookkeeper of unusual ability, suffered from general paresis. The remaining son, a newspaper vender, is the subject of tabes.

DR. A. D. BRUSH, Brooklyn: In cases of tabes that I have had the character of the syphilis itself is sometimes overlooked. In a number of cases coming under my care in the hospital I have noticed that the secondary lesions have often been wanting. The patients have had the disease but the secondaries have been slight and the treatment has been little or nothing. If you look at these patients you will notice what has already been stated, that they are distinctly neurotic individuals, and the opinion which I have formed is that the tabes in these cases is due to the prolonged action of an untreated syphilis plus neurotic heredity.

DR. M. ALLEN STARR, New York: Before the discussion closes I would like to put myself on record in this discussion as being against the position of Dr. Putnam in the statement that all tabetics are syphilitic. I have careful records now of over 500 cases of tabes in public and private practice. I admit that the histories of the public cases, and by that I mean dispensary and hospital cases, are sometimes insufficient, but in the private cases I have taken the greatest pains to explain to the individual the absolute need of knowledge on the part of the physician of any possible syphilitic causation, and on investigation very thoroughly of both the history and physical condition of the individual, I cannot shut my eyes to the fact that in 20 per cent. of my private cases there has been absolutely no evidence whatever of a syphilitic origin of the tabes. I therefore share Dr. Dana's opinion that to endorse this opinion, which first originated, I believe, with Moebius in Leipzig, that all tabetics are necessarily syphilitics, is to throw a certain amount of doubt on the statements of patients, and to engender a cause of great unhappiness in many families; that I do not think in view of the facts at the disposal of the world—not of any one individual, but of the world—is justifiable. For in a collection of the literature of tabes which I made not long ago, I found that reputable expert neurologists differed from Moebius on the one hand with his 100 per cent. down to a very reputable and very experienced Russian physician of wide hospital experience who took the other position that only 11 per cent. were syphilitic. And the range of neurologists can be put down between those two extreme individuals, and you will find that every neurologist almost in the world has put himself already on record with regard to his percentages of syphilitic cases of tabes, and they all differ. Now, so long as they differ, so long as there is no consensus of opinion, it seems to me unfortunate that the idea should become prevalent that all cases of tabes are syphilitic.

DR. JAMES J. PUTNAM, Boston: I should entirely agree with Dr. Starr and Dr. Dana in feeling that we have a social duty with regard to patients' families, and I have always taken the position Dr. Starr asserts, namely, that I was not willing to claim that a causal relationship between syphilis and tabes necessarily exists. But I think it is quite different when we are talking among ourselves and discussing evidence. I am not stating certainties but increasing probabilities, partly in the interest of treatment.

As regards Dr. Fisher's remarks, I believe and stated in my paper that I also have seen the incoordination of tabes brought on abruptly by a considerable exertion—a long march in the snow. I think that such fatigues act mainly like any general strain. I doubt very much whether any one can say broadly—although now and then it may be the case—that a march is bound to bring on incoordination of the legs when it could not bring on atrophy of the optic nerve or throat affection. I admit that there is something to be said for the localizing effect of fatigue and strain, but I have seen, for example, a fall from the steps of a street car also bring on incoordination very rapidly, almost abruptly. The case for overstrain as a localizing cause is not so clear that for the sake of it we should neglect the evidence for other causes of more obvious value, as genetic nutritive defects or specific toxemias. There are many exceptions to the rule that those who work with the eyes are especially prone to optic atrophy, those who use the legs to locomotor ataxia.

THE FEEDING OF IMMATURE AND ATROPHIC INFANTS *

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SAN FRANCISCO

Predisposing causes to infantile immaturity and atrophy may at times be detected in the pregnant woman, and certain of them later may be of considerable value in determining why the usual milk formulas fail to nourish the child.

Scant consideration is given to the fact that an individual's existence really commences at the time of conception and too much importance is attached to the usual expression which merely states the dividing line between intrauterine and extrauterine life. At conception the child is endowed with all the ills or graces of a bad or a good ancestry and little can be done to counteract the immutable laws of heredity, but with environment, intrauterine as well extrauterine, the physician can do much either to harm or to aid the growing individual. It is a well-recognized fact that pregnancy associated with marked anemia or toxemia predisposes to poor fetal development, which may be evident at birth or which may be expressed later by failure to digest and assimilate properly the natural food of the infant or of the carefully prepared modified milk formulas. This is frequently seen in syphilis, alcoholism, poverty, gonorrhea and nephritis and in some cases of heart disease and tuberculosis. In large cities the combination of alcoholism, poverty and gonorrhea seems to be almost as serious to the child as is syphilis.

The long ten months of intrauterine life affords the physician a very favorable time for feeding the prospective immature or atrophic infant through the blood of the mother. Too little attention is paid the average case of pregnancy and too much is left to chance and Nature. It is wise to consider the husband and to remember that, no matter what his station in life may be, he may have a very bad past venereal history. In suitable cases, mercurial treatment antepartum is of more value to the child than a consideration later of intricate algebraic equations of theoretical milk formulas.

An infant with full forty weeks' intrauterine gestation may be decidedly immature, while another born at

* Read before the Sacramento Society for Medical Improvement, March 17, 1909.

the thirty-sixth week may be full of vigor and good health. Weight is of more importance than age, and an infant weighing less than 2 kilos (4.5 pounds) at birth is immature.

With this weight there is a paucity of subcutaneous fat, the muscles are poorly developed, the nervous system unstable and the powers of digestion weak. Atelectasis is more or less present, while the increased ratio of skin area to weight produces a condition of unstable heat regulation. Added to this the amount of blood and the capacity for producing new blood elements is much below par.

An atrophic infant, although normal at birth, tends gradually toward the type of the immature. The thickness of the intestinal wall is diminished and there is evidence that certain needed glandular structures are in abeyance. Changes have been reported in the adrenals, in the parathyroids and in the mesenteric glands, while Wentworth has recently demonstrated that secretin, which is necessary to activate the pancreas, is lacking in the epithelial cells of the intestines of new-born and atrophic infants. From recent investigations by Pawlow, Starling, Bayliss and other physiologists it seems probable that there exists in all vertebrates a number of so-called hormones whose function it is to stimulate or activate the different digestive ferments. They are undeveloped at birth and are functionally inactive in atrophic infants. Speculation is rife as to what aids and what retards the action of these hormones. Wentworth suggests that certain inherent properties of mother's milk are needed. However, immature and atrophic infants can be reared without resorting to mother's milk, and, while granting that mother's milk is of the greatest aid for a proper infant nutrition, I am inclined to believe that failure of development is largely due to food intoxication caused by improper feeding—particularly the too early resort to artificial feeding or to too high percentages of butter fat. With mother's milk failure can follow from the same reason.

A delicate infant must have fat, proteid, carbohydrate, salts and water of such quantity and relative proportions as will meet the possibilities of its digestion. Food is not in the body until it has been absorbed by the walls of the intestine, and the food that is absorbed is not of use unless it contains the food essentials competent to meet the needs of the body cells. Carbohydrate and fat are needed for immediate consumption to furnish energy or for storage purposes and padding. Proteid is essential to the growth of cells as well as for the production of new cells. The salts of milk plasma are needed by all the cells of the body and probably aid with the casein in the development of the digestive tract.

Excess of proteid is thrown off by the kidneys, causing an increase of nitrogenous elements in the urine. Excess of sugar may cause intestinal fermentation, may interfere with the digestion of fat, and aids in the production of systemic intoxications. Excess of fat not only causes food intoxications, but abstracts from the body valuable alkalies, which are used to make soap of the fatty acids in the intestines, and causes an increase in the ammonia excretion of the kidneys. Excess of salts interferes with the proteid digestion in the stomach and is a factor in the production of edema.

On the other hand, a deficiency of any of the food elements will cause sooner or later serious disturbances in nutrition.

In order to avoid the dangers of over-feeding or under-feeding various systems of percentage feeding have been suggested by a number of American authors. A great deal of good has been accomplished with the percentage method. It inaugurated a logical line of thought and placed infant feeding on a more or less scientific foundation, but practically it caused an over-feeding of babies. Certain French authorities, notably Budin and Heubner, have devised a system of feeding by which the caloric value of the food bears a certain relation to the weight of the child. This is another marked advance in infant feeding, for by asserting certain standards it has permitted not only a better knowledge of the proper food values, but has afforded a means for determining the relative amounts of the different food elements that should be fed. While it is of great value to feed normal babies according to the principles of the percentage method and while it is of greater value to feed them according to the caloric value of the food, it is most reprehensible to attempt to force an immature or atrophic baby to digest mathematics or to persist in feeding that which the baby does not want and can not digest simply because it looks well on paper. The baby must be studied clinically and physiologically and the food adjusted to meet the powers of its present digestion and to aid in the development of its digestive tract.

TABLE 1.—CLINICAL CHART. IMMATURE INFANT

Day.	Date. 1908.	Stools.*	Skin.	Cord.	Notes.	Treatment.
B	Mar. 26	m ii....	Red...	Dry...	Cotton jacket incubator at 40° C.	
1	27	m iii....	Red...	Dry...	Unable to nurse, regurgitates food.	Gavage.
2	28	m iii....	Clear.	Dry...	.....	Gavage.
3	29	m iii 6 i	Clear.	Dry...	Eyes puffed.....	Gavage.
4	30	g iii	Clear.	Dry...	.....	Calomel, gr. 0.1; colon irrigation.
5	31	g ii y i..	Clear.	Dry...	.....	Gavage.
6	April. 1	y ii g i..	Clear.	Dry...	.....	Gavage.
7	2	y ii g i..	Clear.	Dry...	.....	Gavage.
8	3	y i g i...	Clear.	Dry...	.....	Gavage.
9	4	y iii.....	Clear.	Off. ..	.....	Calomel, gr. 0.1.
10	5	y iv.....	Clear.	Dry...	Edema: hands, feet, eyes.	Colon irrigation.
11	6	g i y ii..	Clear.	Dry...	Slight edema: feet..	Gavage.
12	7	g i y ii..	Clear.	Dry...	No edema.....	Gavage.
13	8	y iii....	Clear.	Dry...	.....	Gavage.
14	9	y ii.....	Clear.	Dry...	.....	Castor oil min. xv.
15	10	y iii g i.	Clear.	Dry...	Slight edema: hands, feet.	Gavage.
16	11	y iii	Clear.	Dry...	Slight edema.....	Gavage.
17	12	y iii	Clear.	Dry...	No edema; nurses bottle.	
18	13	y ii.....	Clear	Dry...	Nursing well.....	
19	14	y i.....	Clear.	Dry...	.....	
20	15	g i y i...	Clear.	Dry...	.....	
21	16	y ii.....	Clear.	Dry...	Removed from incubator.	

Condition on discharge, May 13, 1908: Eyes, nose, mouth, anus, genitals and extremities O. K. Navel healed. General condition good.

At the University of California Hospital I have developed a system of bottle feeding that not only succeeds with most of these delicate infants, but also is comprehensible to the nurse preparing the food and instructive to the student. The plan consists of insisting on careful observation of the physiologic condition of the baby and of maintaining a written record of the foods given and the effect the food has had on the child. Clean ingredients and clean apparatus are, of course, necessary. Certified milk is used and has proved of the greatest aid. This milk comes from tuberculous-free cattle, is produced according to the requirements of the Milk Commission of the San Francisco County Medical Society, has a germ count of less than 10,000 per c.cm., is cooled, bottled and sealed at the producing farm immediately after milking and averages 3.6 per cent. but-

* In this column, m means meconium, y, yellow, g, green.

ter fat. Various top milks are obtained from the quart bottles of milk with a Chapin dipper which average as follows: Top 12 oz. 8.5 per cent.. top 14 oz. 7.5 per cent., top 16 oz. 6.5 per cent., top 20 oz. 5.5 per cent., lower 20 oz. 0.5 per cent. fat. Whey from whole milk averaging 1 per cent. fat and 1 per cent. albumin and whey from skim milk are also used. The different milks average about 5 per cent. sugar and 3.5 per cent. proteid (except whey).

For carbohydrates pure milk sugar and Robinson's barley are used. Other carbohydrate foods have at times been used and the barley has been dextrinized in certain cases of atrophy, but as a rule good results have followed the use of a limited variety of carbohydrates. The physician should know the actual composition of any prepared or patent food he uses. Knowing the actual ingredients of a proprietary baby food permits of its intelligent use, and with some cases of atrophy the different varieties of carbohydrate have considerable value, but their ignorant use, blindly following the commercially scientific directions accompanying them, leads only to confusion and is a mute acknowledgment that one is unfitted to cope with the difficulties of malnutrition. The so-called foods can all be prepared, if necessary, by dextrinizing the different flours.

Salts of sodium or magnesium (chiefly sodium chlorid) are used to aid the gastric digestion of casein and to promote the absorption of the different proteids. Occasional resort is made to buttermilk, malt sugars, and dextrinized gruels, but as a routine such feeding has not been found equal to the carefully prepared and modified fresh cow's milk.

Each immature or atrophic infant is fed according to its power of digestion as expressed clinically. The clinical chart is not difficult to keep and is absolutely necessary for success with these difficult cases. For the first few days little attention is paid to the percentage value or to the caloric value of the food. It is usually necessary at first to feed the immature and some of the atrophic babies by gavage. Body warmth must be maintained by artificial heat and stimulants if necessary must be given hypodermically or normal salt solution by hypodermoclysis. Calomel is usually necessary to clear the intestinal tract of the atrophic babies.

The immature babies are started with sugar solution (5 per cent.) or with salt solution (0.5 per cent.) and the atrophic babies with whey in order to ascertain the amount of liquid the infant will retain. Gradually the sugar solution is replaced with whey and the whey replaced with one of the top milk, whole milk or fat-free milk mixtures according to the behavior of the child. Barley water is not added until the food contains from 20 to 30 per cent. of milk, unless the sugars fail to agree. The quantity of food is increased to meet the desires of the child and its ability to retain. The relations between the weight chart, the clinical chart and the feeding chart are constantly studied. At intervals the percentage formula of the food and the calories, with the energy quotient and the proteid ratio, are estimated to avoid a continued over-feeding or under-feeding.

A description of the feeding chart used will elucidate how practically the food for these infants is ordered and controlled. The chart is ruled in columns, in one of which is indicated the quantity of food to be prepared, while in a second is noted the number of feedings to be given. In a third column marked "milk" is stated the kind of milk to be used—skim milk, whole milk, buttermilk, or indicated top milk—and the percentage that this milk shall make with the total quantity of food ordered. In a fourth column is placed the order for starch. It is here necessary to know the strength of the gruel prepared by the nurse. I have found that a rounded tablespoon of Robinson's barley to 12 ounces of water when cooked for half an hour and the water loss replaced makes a 5 per cent. solution of barley. In the column marked starch is stated the strength of the gruel and the per cent. this gruel shall make with the total food ordered. In similar columns the percentage of sugar, salt, limewater, or other ingredient desired is placed, and finally, and most important, must be charted the percentage of water necessary to be added to make with the other liquids 100 per cent. In preparing the food the nurse multiplies the total quantity of food ordered by the different percentages in the different columns in order to ascertain the amount of each ingredient to use.

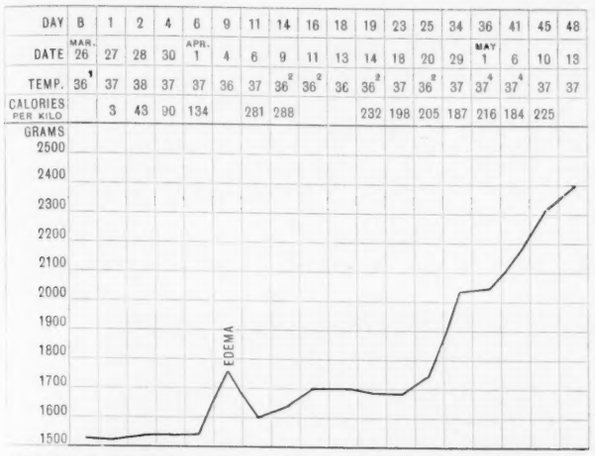
When an immature or atrophic infant can digest whey, 10 per cent. of milk (usually top milk 16) is added and this is increased gradually but constantly until the baby can digest from 30 to 40 per cent. of milk. With this 5 per cent. of sugar and 0.5 per cent.

TABLE 2.—FEEDING CHART. IMMATURE INFANT

Date. 1908.	Milk. Per cent.	Sugar. Lactose Per cent.	Salt. Nacl 20 per cent. Solution.	Water. Per cent.	Number of Feedings.	Total Amount. Ounces.	Calories.	Whey. Per cent.	Treatment.	Per cent.			
										Fat.	Sugar.	Barley.	Prot.
Mar.													
27	0	6	0	100	24	6	5			0	6	0	0
28	0	0	0	0	12	6	69	100	Gavage	0.9	5.5	0	0.9
30	0	0	0	0	12	12	138	100	Gavage	0.9	5.5	0	0.9
April.													
1	0	0	0	0	12	18	207	100	Gavage	0.9	5.5	0	0.9
4	0	0	0	0	12	24	276	100	Gavage	0.9	5.5	0	0.9
	Up 10												
6	5	5	2.5	0	12	24	447	92.5	Gavage	1.2	10.2	0	0.9
9	7.5	5	2.5	0	10	24	467	90	Gavage	1.4	10.2	0	1
11	10	5	2.5	43.5	10	24	360	44	Gavage	1.2	7.9	0	0.7
13	12.5	5	2.5	42.5	10	24	381	42.5	Bottle	1.4	8	0	0.8
14	15	5	2.5	41.5	10	24	401	41		1.7	8	0	0.8
18	20	5	2.5	77.5	10	24	336			1.8	6.1	0	0.7
20	22.5	5	2.5	75	10	24	360			2	6.2	0	0.7
22	25	5	2.5	72.5	10	24	384			2.2	6.3	0	0.8
								Barley 5%					
29	27.5	5	2.5	60	10	24	420	10		2.4	6.5	0.5	0.9
May.													
1	30	5	2.5	57.5	10	24	444	10		2.7	6.5	0.5	1
	Up 16												
6	32.5	5	2.5	55	10	24	387	10		2.2	6.6	0.5	1.1
10	35	5	2.5	52.5	10	30	520	10		2.4	6.7	0.5	1.2

of salt is also given and 10 per cent. of the 5 per cent. barley gruel added and rapidly increased as the whey is eliminated.

It seems to me that as a rule these infants do better when the ratio of fat to proteid in the food is not more than two to one, and, while the number of calories needed for the normal infant may not be more than 100 per kilo of body weight, and can gradually be reduced as the child grows older, I have found that it is necessary



Weight chart of immature infant. Birth expected May 3, born March 26. Mother 1-para; one miscarriage at third month, two years ago; symptoms of toxemia during present pregnancy.

to feed the immature and atrophic infants as high as 150 calories per kilo for several weeks at a time; and with food of this high caloric value I have seldom found signs of over-feeding, except when the fat calories ran high. However, when a baby digests fat all right it is fed fat, but is watched carefully and the fat is reduced with the first signs of indigestion.

The weight chart urges always for more food, and the clinical chart acts to hold this in check. Intelligent interpretation of these two indicates the sensible way to feed in these interesting problems of malnutrition.

240 Stockton Street.

A TERATOMA OF THE HYPOPHYSIS *

D'ORSAY HECHT, M.D.

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CHICAGO

PATHOLOGIC REPORT BY MAXIMILIAN HERZOG, M.D.†

Neither from the earliest collation of cases nor even from the more recent ones do we seem in a position to estimate accurately the frequency of hypophyseal tumors. The cases are reported from such widely different premises, most often according to points of special clinical significance. Thus we find it necessary to search the records of ophthalmology, treatises on acromegaly, contributions to intracranial surgery, journals devoted to radiography, and so forth, in getting at information bearing on the pathology. Mindful of this difficulty encountered in making up an exhaustive tabulation of cases, I think we may, nevertheless, assume that tumors of the hypophysis and infundibulum are quite rare.

As concerns the variety of neoplasms, we meet with simple hyperplasia, adenoma, glioma, sarcoma, carcinoma and teratoma. The teratomata of the gland are, indeed, a very rare form of tumor. Boyce and Beadles, in their large collection of cases, include three of this variety reported by Beck, White and Sainsbury; in the last mentioned of these the tumor had its origin not in the gland proper, but in the region of the gland. This particularity as to the original seat of the growth should not be construed as an idle distinction, for there is a difference both in the pathologic and clinical aspects of a tumor arising from the gland or invading it from its immediate neighborhood.

The teratomata are in their nature a fetal type of tumor and present structural changes identical with those noted in the case herewith reported. Kon has very recently reported a case of cretinism with a teratoma in the hypophyseal region, a case of periepithelioma and one of angiosarcoma with extensive hemorrhage. I contend, and for reasons which the pathologic report will no doubt make clear, that the tumor in this case in all probability arises from the anterior portion of the gland.

Bearing in mind the embryonic development of the anterior or glandular portion of the hypophysis as derived from the oral ectoderm, it is to be wondered at that the teratoma is not a more frequent factor in the classification of hypophyseal neoplasms. Bruns divides the tumors of the hypophysis, which he says in the main arise in the anterior and spread to the posterior portions of the gland, into homoplastic and heteroplastic. The homoplastic growths are made to include the simple hypertrophies, colloid and cystic enlargements and the adenomata. The heteroplastic are the round-cell sarcomas, the teratomata with their epithelial, cartilaginous or bony content, the primary and metastatic carcinomas, lipomas, tubercles and gummata; of these, he states, the sarcomas are most commonly met.

The clinical notes of this case will appear somewhat abridged in favor of a more detailed report of the pathologic findings which, in my opinion, are unique and, so far as I have been able to learn, almost without precedent in the literature. My sincere thanks are due my friend and colleague, Dr. Isaac A. Abt, for the privilege of this case citation, and I owe grateful acknowledgement to Dr. Maximilian Herzog, formerly pathologist to the Michael Reese Hospital, both for his valuable interpretation and painstaking arrangement of the pathologic material.

REPORT OF CASE

Summary.—A tumor of the hypophysis, correctly diagnosed as regards neoplasm, but not localized; absence of sufficient focal symptoms; skiagraphs unsatisfactory but faintly suggestive of cerebellar involvement. Tumor not found at operation because of its deep situation. Termination in death six hours after operation. Autopsy reveals a tumor of the hypophysis proved to be a teratoma arising in all probability from the gland.

Patient.—K. F., a slender blond girl, aged 11, American born, was referred by Dr. Tieken to the care of Dr. Abt and admitted to the service of the latter at the Michael Reese Hospital, May 27, 1908. The parents were regarded as healthy; so were their direct and collateral antecedents, as far back as could be ascertained. The mother had experienced several miscarriages and a still-birth, these, however, occurring after the patient was born.

History.—The birth of the girl was spontaneous, at full term, and in all respects normal. Except for whooping cough, measles and varicella, her childhood was uneventful. At 8 she experienced three distinct attacks of appendicitis with general

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

† From the Pathological Laboratories of Michael Reese Hospital.

peritonitis. During a free interval the appendix was successfully removed and she regained her health, remaining perfectly well for the next two years. About one year before examination, at the age of 10, she complained of disturbed vision and headaches that made it difficult for her to pursue her studies. The headaches were frontal, most often occasioned by mental strain during study hours, and in their earlier exhibition were, on the whole, quite irregular. Five weeks after their onset they became increasingly severe and diffuse, extending well back to the nape of the neck, and attended with a feeling of more acute pain back of the eyeballs and in the ears. At this time vomiting appeared, at first only occasionally at breakfast, but later with regularity after each meal. The vomiting, far from being projectile, was preceded by a feeling of nausea, affording the patient sufficient time conveniently to leave the room and use some receptacle. Five weeks prior to admission the right eye turned strongly inward and remained so. Periods of dizziness were occasional. Always a sound sleeper, the patient now rested well only in the fore part of the night, after that tossing about with headache. Nervous irritability was marked at times and induced by the slightest noises, such as the ordinary footfall or the low-pitched soft voice. The mentality, according to reports, seemed in no wise impaired, nor had the child's disposition changed except for the late outbursts of irritability. Convulsive seizures had never occurred. Neither weakness of the extremities nor clumsiness in any of the voluntary movements had ever been noticed. There was marked constipation, but no difficulty with micturition. During the last five months of her illness there was an increasing aversion for food.

Examination.—The physical examination, made and noted under date of May 28, was as follows: The general nutrition was fair. The head seemed slightly retracted. Pupils were large, equal, regular, with normal response to light and accommodation. Photophobia was present, and in this connection it should be added that the eyes had received atropin for fundus examination. There was complete right external rectus paralysis. Dr. E. F. Snydacker reported bilateral choked discs, with two or three diopters of swelling in each eye. Ear examination made by Dr. Ira Frank proved negative. The teeth, somewhat irregular as to shape and arrangement, were otherwise normal. Some neck rigidity was present. There were no palpable glands. Heart, lungs and abdominal viscera were negative. Muscular strength seemed normal. The gait was not much disturbed, but on finer tests in the recumbent posture some loss of coordination in the legs was evident. Sensory symptoms were absent. A positive Babinski was obtained on the right side. The skin and tendon reflexes were everywhere present and equally brisk. Ankle clonus was absent; likewise spasticity. The stereognostic sense was not tested. Hearing was normal; vision was equally defective in both eyes to the extent that the patient could not read type, but was able to discern objects and differentiate those persons having access to the sick-room.

Clinical Notes.—On day of admission an afternoon temperature of 99; thereafter a daily variability of from 97.3 to 99. Pulse rate, 80 to 104.

Laboratory Data.—A. Blood findings, May 27, 1908: Hemoglobin, 95 per cent.; white cells, 10,600; red cells, 5,372,000. May 30: Leucocyte count, 82,000.

B. May 31: Von Pirquet vaccination test on right arm (Dr. Davenport), negative.

C. May 31: Ocular tuberculin test, one minim of a 1 per cent. solution injected in the left eye, likewise negative.

D. May 31: Blood. Tuberculo-opsonic index taken and found to be 1.19.

E. Skiagraphs doubtful, it having been thought by several who saw them that the shadow cast was, if anything, in the cerebellar area, thus prejudicing one in favor of a diagnosis of cerebellar tumor.

F. Daily urinalysis negative.

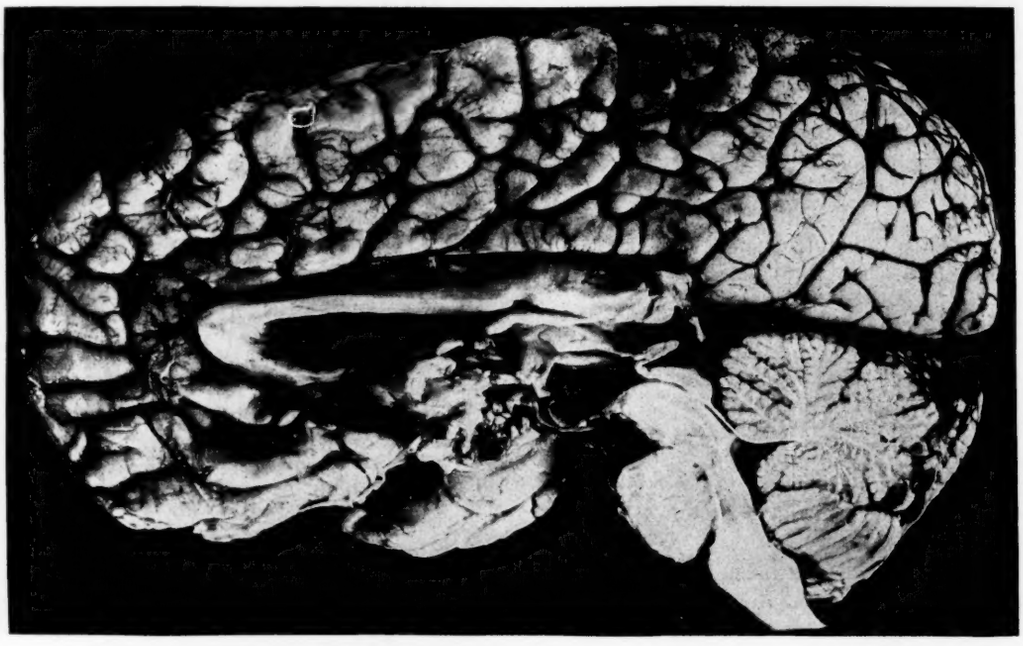


Fig. 1.—Median sagittal section of brain showing tumor of the hypophysis (Hecht and Herzog).

The patient was seen by Dr. A. Church, and later by Dr. L. L. McArthur, who performed the operation on June 8. The operative notes in very abbreviated form read as follows:

Operation.—June 8, 1908, by Dr. McArthur, Dr. Hoover assisting. Anesthetic, ether. Head prepared in the usual manner for brain operations for two days prior to operation. Fissures of Rolando mapped out on either side. Brain punctured near the left occipital and left posterior parietal regions. Punctures made with fine drill and aspirating needles. No fluid obtained in occipital puncture, but about 3 or 4 c.c. of a clear fluid containing three or four white, hard floccules was obtained by puncture in the posterior parietal region. Fluid saved for diagnosis. Semicircular incision, base downward, through skin and subcutaneous tissue to periosteum. Incision began a little above Reed's base line, about in a vertical line drawn through the left external auditory meatus, arching upward and backward, describing a semicircle, and ending about four inches posterior to its own origin. All bleeding vessels caught and ligated with fine gut ligatures. Periosteum incised in similar manner about 0.75 cm. inside scalp incision. Edges of periosteum raised with an elevator. Trephine hole.

about three-eighths of an inch in diameter, made in anterior lower angle of wound and the bone cut through from before backward with a rongeur forceps. Base not cut through. Upper edge of bone flap raised and steadily increasing pressure applied on elevators until bone fractured across the base. Bone and scalp flaps now laid back together. Dura found intact and apparently normal, but ballooning up strongly through skull opening, showing a greatly increased intracranial pressure. Aspirating needle again passed into posterior parietal region, needle passing inward, upward and slightly forward. Several cubic centimeters of fluid withdrawn. Dura carefully washed with warm normal saline; all rough edges of bone smoothed, and the bone flap replaced. Scalp incision closed with continuous waxed silk suture. Wound sealed with gauze and collodion, excepting about 1 cm. at posterior inferior angle. A large dry dressing applied. Stimulating enema given on table. Patient put to bed in poor condition. Foot of bed elevated.

Cerebral Fluid.—A smear of the cerebral fluid sent to the laboratory was reported on by Dr. Herzog as follows: A very few mononuclear cells seen in the sediment after centrifuging; some red blood corpuscles; no bacteria of any kind. Small solid particles and carbonate of lime, soluble in dilute hydrochloric, with giving off of carbon dioxid. No tubercle bacilli. No evidence of cysticercus or echinococcus. Shortly before exitus, which followed operation in six hours, one-half ounce of fluid was aspirated through the wound by Dr. McArthur, examination of which was negative.

The autopsy was performed within six hours after death.

Fig. 2.—Section of decalcified osseous portions of tumor, showing strongly calcified bone fibrils. Magnified 100 diameters.

Fig. 3.—Same as Figure 2, showing marrow spaces and lamellated bone. Magnified 100 diameters.

DESCRIPTION OF TUMOR

The following description of the tumor and histopathologic comment by Dr. Herzog is of interest:

"When the tumor was removed with the brain, it was found that it had markedly corroded, thinned out and excavated the sella turcica, on which it rested. The neoplasm (Fig. 1) is more or less globular in outline and has a diameter of about ¾ inch from above downward, and about one inch from before backward. Its longest axis is not absolutely horizontal, but is oblique, so that the anterior attached pole of the tumor is on a higher level than the posterior free end. At the anterior pole the tumor is attached in such a manner that it has become fused with and presses on the optic commissure. It is also fused to the corpora mamillaria and to the floor of the third ventricle. The pedicle of the hypophysis has disappeared. The neoplasm is apparently everywhere surrounded by a capsule, except where it is fused to tissue of the cerebrum proper. The tumor substance itself looks rather irregular, heterogenous, and contains small calcareous particles. The cavities of the lateral and of the third ventricle, although markedly enlarged, may, nevertheless, be considered of moderate size. The aqueduct and the cavity of the fourth ventricle are of normal configuration. In removing pieces of the tumor for microscopic examination, portions of the floor of the third ventricle had to be taken along with the tumor substance.

"The tumor tissue is composed of a variety of cellular elements. It appears that the original tumor parenchyma has been formed by epithelial cells of the anterior portion of the pituitary body. The proliferating cells have formed quite irregular gland-like or alveoli-like spaces in a stroma, of very loose vascular embryonal connective tissue composed of stellate cells. Where the proliferated tumor cells have arranged themselves into more or less globular spaces we find these alveoli either completely filled with epithelial cells, or there is present only an outer shell of epithelial cells and an inner mass of hyaline material. The latter, however, is not perfectly homogeneous, like typical colloid, but rather scaly and shows clearly its derivation from degenerating cells which have been moulded together in the interior of the follicles, but have not become completely fused into a homogeneous mass. On the whole, these bodies in the interior of the follicular spaces look somewhat like the epithelial pearls of cornifying carcinomata, although the material does not show any true cornification. It stains with Van Giesen from an almost pure yellow to deep yellow with some red, and even to a deep reddish orange. The epithelial cells forming the follicular spaces are cuboidal or short columnar. The latter shape occurs in situations free from pressure. Here the basal vesicular nuclei are oval, while the shorter cubical cells have spherical nuclei. The latter possess a rather finely granular chromatin, while here and there one or two nucleoli are visible. The protoplasm of these cells is very finely granular and takes but a very faint stain. These cells have not only formed the follicular or alveolar spaces, but have also proliferated in a very irregular manner, and this has led to the formation of irregular masses and tracts of cells. In some places giant cells with numerous centrally located nuclei are seen. The origin or derivation of these cells is not clear.

"It is found on microscopic examination that the hard portions of the tumor which were noticed when it was cut consist of osteoid tissue. Part of the latter is composed of very coarse primitive fibrils and fibril bundles which are variously infiltrated with lime salts, some very little, others abundantly. Aside from the fibrillar structure, the bone substance here

shows no other differentiation. Again, other portions of the bone show all of the osseous elements of bone—corpuscles, Haversian canals, concentric lamellæ and cellular marrow spaces.

"Where the tumor has become fused with the floor of the third ventricle, we find a loose edematous connective tissue, with numerous coarse and delicate wavy fibers, forming a wide-meshed reticulum. To the outside of it is seen a portion of the chorioid plexus; its ependymal cells have proliferated and formed branching villous excrescences. No cartilage was found in the tumor, nor any glia cells or fibers.

"This tumor, then, of a mixed type, shows epithelial elements derived from the anterior portion of the pituitary body, and osteoid tissue, very probably derived from any early embryonal inclusion."

DEVELOPMENT AND NORMAL STRUCTURE

Essential to any epicritic consideration of the pathologic features in the case at hand is a thorough understanding of the development and normal architecture of the hypophysis.

This structure, for so long called the glandula pituitaria, is a somewhat flattened oval body, slightly broader than long, of grayish-red color, with an average weight of 0.69 gm. (Boyce and Beadles), resting in the sella turcica of the sphenoid bone. Bilobate gland that it is, it consists of an anterior and posterior portion, united and enveloped in a fibrous capsule, which is a special prolongation of the dura. These portions are histologically and histogenetically dissimilar. The anterior lobe, the larger and darker of the two, is bean-like in shape and concave behind, where it embraces the smaller posterior lobe. It is glandular in structure, and, being developed embryonically from a hollow protrusion, derived from the primary oral ectoderm, is sometimes referred to as the oro-hypophysis. The distal end of this protrusion (Böhm and Davidoff) or pouch comes in contact with the anterior surface of the lower portion of the infundibulum and becomes loosely attached to it. As the bones at the base of the skull develop, the attenuated oval end of this pouch atrophies, the distal end becoming finally completely severed from the buccal cavity. When this has occurred, the anterior portion of the gland is situated in cartilages, which later on become parts of the sphenoid bone, and, as Dr. Herzog suggests, it is easy to see how some of these sphenoidal cartilages might become included in the anterior portion of the hypophysis and thereby become the matrix of a tumor containing bone. It is fair to assume that this is what actually occurred in this case.

Several writers have ventured the opinion that any variations noted in the size of the gland as a whole are perhaps due to the variable dimensions of this glandular portion.

Its close resemblance to the thyroid has been a matter of repeated comment.

The vascular supply to the anterior lobe comes from the internal carotid by five branches coming from the trunk within the cavernous sinus. The posterior lobe is supplied by arteries that pass down with the pia mater of the infundibulum.

The posterior lobe, connected by a solid stalk with the infundibulum and regarded as a continuation of it, is developed from that part of the embryonic brain which later goes to form the third ventricle. In marked contrast to the anterior lobe, it is in its nature a cerebral structure, and for that reason by some called the neurohypophysis.

103 State Street.

ABSTRACT OF DISCUSSION

DR. HARVEY CUSHING, Baltimore: I think it important in relation to tumors of the hypophysis to distinguish between tumors arising from the hypophysis itself and tumors merely in the infundibular region. Tumors in the interpeduncular space may exist with or without disturbance of the hypophyseal function. That is what we are especially interested in. Tumors which disturb the hypophyseal function may be associated with over-activity or under-activity of the gland. Those are things which, as physicians and neurologists, it is incumbent on us to distinguish. The case that has been reported by Dr. Hecht is very similar to a case that was in my care a few years ago (also a teratoma), in which there were glandular elements, and I doubt not that there were active glandular elements in this case of Dr. Hecht's sufficient to enable this child to continue to live, for I emphatically believe that the hypophysis or a portion of it is necessary to maintain physiologic equilibrium.

It will be necessary, I think, in every case before one can say that this is a tumor of hypophysis or a tumor in its neighborhood, that serial sections be taken, and it is important in this case that a careful search be made for remnants of the flattened, possibly distorted pituitary gland. These elements which have been demonstrated are suggestive of the fact that the tumor actually may have been of hypophyseal origin; but we should bear in mind the developmental character of structures in this neighborhood, the favorite site for teratomata. The important thing to determine, of course, is what the growth in the neighborhood has done to the gland.

Dr. Hecht has devoted some of his investigations to considering the effect of the growth on neighboring structures. Of course, disturbance of the optic nerves and other structures in the neighborhood, such as pressure on some of the oculomotor nerves, often occur whether the hypophysis has been affected or not; but I think that primary optic atrophy is the usual early symptom of pressure here. That is the striking thing—a primary optic atrophy without an associated choked disc. One can have a choked disc, or optic neuritis if you chose to call it that, superimposed on primary optic atrophy. But I think you will always find in these cases, and I think it will prove to have been present in Dr. Hecht's case, that there was an internal hydrocephalus present when the child died, if it had choked disc of three or four diopters. The pressure of the nerves themselves, without the associated condition of hydrocephalus will induce a primary optic atrophy, and it is only when the growth in this neighborhood reaches such size that it interferes with the outflow of fluid through the foramina of Monro that it causes dilatation of the optic sheaths and leads to choked disc.

DR. MAXIMILIAN HERZOG, Chicago: Dr. Cushing has referred to the embryology, which has also been discussed in the paper; but in order that you may fully understand the histogenesis of the tumor, it is perhaps desirable that I should refer briefly to the development of the hypophysis. The latter takes its origin from a double source, one part develops from that portion of the brain which later becomes the floor of the third ventricle, it is called the infundibulum, while the posterior or lower portion is developed from an offshoot of the primitive oral cavity. So that, from an embryologic standpoint, the hypophysis is quite complicated.

I have not made a complete serial section examination of the tumor in question because that would have necessitated a destruction of the specimen, which was not desirable. The tumor shows epithelial portions which arise from the posterior portion of the hypophysis, that portion which develops from the early oral epithelium. Evidently those proliferating epithelial cells have retained their physiologic function; they have formed a material somewhat colloid in character; and as I understand the clinical history of the case, there was no disturbance of nutrition at all in the child, which would indicate that the hypophyseal physiologic function was not entirely missing nor greatly disturbed. The child did not die from the tumor, but the operation led to a fatal issue.

There are three types of mixed tumors or teratomata, one type which imitates a certain organ of the body, for instance, an ordinary dermoid of the skin; the second type, which imi-

tates an entire embryonic region, the best type of which are the embryonal adenosarcomata of the kidney; and then, thirdly, tumors which may contain all the tissues of the body, and these are the most complicated mixed tumors, arising from the germ cells of the ovary or testis. This tumor belongs to the second type. It shows epithelial structures derived evidently from the early oral epithelium, and shows bone which is probably derived from the early cartilages which later form portions of the sphenoid bone.

PROF. MAX NONNE, Hamburg, Germany: I wish to speak of a case of a woman of 27 who has suffered for two or three years with a hypophyseal tumor which has caused acromegaly. Her hands increased gradually in size. At the time of her marriage her wedding ring was No. 8, whereas she now wears a No. 13. The size of her shoes has been changed from 5½ to 8; her frontal bones are very prominent; her nose has changed; the rows of front teeth do not meet, on account of the changes in the size of the jaws. She has complained of slight headache; there have been no eye symptoms; but she suffers from rheumatic and neuralgic pains all over her body. A radiogram shows excavation of the bone which makes the diagnosis of hypophyseal tumor certain. The patient has not consented to an operation as yet.

DR. WILLIAM G. SPILLER, Philadelphia: After a number of years the bitemporal hemianopsia from tumor of the pituitary body may diminish, as in a case reported by F. A. Packard about 1890 in the *American Journal of the Medical Sciences*. Some years later I obtained the specimen through Dr. Cattell, and found a large tumor filling the third ventricle. It had greatly enlarged the sella turcica, and the relief of pressure on the chiasm afforded in this way had lessened the hemianopsia. Recently, in consultation with Dr. Zentmayer, I examined a similar case in which the bitemporal hemianopsia diminished as other symptoms increased. Tumors in this region are frequently of slow growth. In the last case referred to the symptoms began many years before death. The patient was a woman over 40, and one of the earliest symptoms was cessation of menstruation occurring about the age of 20; other signs, such as bitemporal hemianopsia, have since developed. The early cessation of menstruation in this case indicates that the tumor probably has been growing more than twenty years.

SIR JAMES GRANT, Ottawa: I recall a case sent to Sir Victor Horsley by Sir Richard Gower, diagnosed as tumor in connection with the spinal cord. Horsley diagnosed it differently, cut down on the tumor, took out a large amount of material between the theca and spinal cord, scraped it out, injected it with bichlorid of mercury, and the individual shortly recovered and went back to his business, entirely restored as regards function of his extremities, and to-day enjoys perfect health. That shows the advances that surgery has made in the treatment of diseases of the spinal cord as well as of the brain.

DR. HUGH T. PATRICK, Chicago: That a central scotoma with this optic atrophy is relatively frequent I did not know. Within a week I have seen a case which bothered me exceedingly, and except for the fact that the patient had a large central scotoma on one side and a small one on the other, I should at once have made a diagnosis of hypophyseal growth; but not knowing that that was a symptom of hypophyseal pressure I was not willing to come to that conclusion, but now I feel certain. I might add that in this case menstruation ceased at 20. I have in mind also another case in which menstruation also ceased at 20, in which there was unilateral optic atrophy. I think we are apt to demand schematic cases when we have classical bitemporal hemianopsia and we are loath to recognize cases of unilateral optic atrophy with irregular fields as mentioned by Dr. Hecht and Dr. Cushing. I think if we keep this in mind we will more frequently make the diagnosis of tumor of the hypophysis and less frequently that of tabes with optic atrophy as the first and as yet only symptom.

DR. JULIUS GRINKER, Chicago: I recall a case in which optic atrophy was almost complete on one side, while there was temporal hemianopsia on the other. From the history I learned that it began as a bitemporal hemianopsia. The noteworthy feature in this case was the almost total absence of the knee and Achilles jerks. The diagnosis rested between tabes with beginning optic atrophy and tumor of the hypophysis. I decided in favor of tumor, but had no opportunity to verify the diagnosis. Recently I observed another case of tumor of the hypophysis in which bitemporal hemianopsia was pronounced. In addition there were intermittent dull headaches, which had lasted for several months. The temporal halves had been blind for six months. Acromegalic enlargement is only slightly indicated in the face, but on comparing the patient's photograph with one taken several years ago, the difference is not apparent. A radiogram shows distinct enlargement of the sella turcica. In marked contrast with my first case, this patient has normal reflexes.

DR. D'ORSAY HECHT, Chicago: Dr. Cushing's point in reference to the differentiation between tumors of the hypophyseal region and tumors of the gland proper is very well taken. I find in the literature that most writers are prone to refer rather loosely to tumors in the hypophyseal region, without due regard to the site of origin in the gland itself or its neighborhood. Dr. Cushing's remarks relative to optic atrophy are well borne out by Bartels' statistics, which tend to show that 50 per cent. of the cases are primarily optic atrophies. What Dr. Spiller has said with reference to the variation in the visual fields is most pertinent, but I may add that, particularly in the ophthalmologic literature, these variations in the visual fields and the extent of hemianopsia have been noted. In one instance, reported by Bartels, and observed by Erdheim, I think, the fluctuations were explained on the ground of cyst evacuation, which explanation was subsequently confirmed on postmortem. This variability, therefore, should be borne in mind. Dr. Patrick's point with reference to the type of tabes that presents early optic atrophy is well taken, and he is right in saying that in those cases, when other symptoms are conspicuous by their absence, we should be on the lookout for hypophyseal growth. Professor Nonne's citation of a case in point is most interesting and instructive.

THE CLINICAL VALUE OF RADIOGRAPHY OF THE MASTOID REGION *

SAMUEL IGLAUER, B.S., M.D.
CINCINNATI

The difficulties encountered in radiographing the temporal bone are due to its position at the base of the skull, to the thickness of the parts that the Roentgen rays must penetrate, and to the liability of superimposing the shadows of other portions of the skull on the skiagram of the temporal bone. By directing the rays in the anteroposterior (posteroanterior) axis of the skull Kuhne and Plagemann[1, 2] have taken radiograms of the projecting portions of both mastoid processes, and have drawn clinical deductions therefrom. Voss[3] and Winckler[4] have obtained more detailed Roentgen pictures of the temporal bone by directing the rays in the transverse diameter of the skull.

During the past year Dr. S. Lange, radiologist to the Cincinnati Hospital, to whom I am greatly indebted, has been kind enough to undertake the radiography of the mastoid region for me. After some experimentation, at my suggestion, the radiograms were taken in an oblique profile, i. e., the rays coming from the target were made to center just below the parietal eminence on one side of the skull and were directed through the cranium in the direction of the temporal

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Kuhne and Plagemann: Fortschr. a. d. Geb. d. Roentgenstr., Sept. 1, 1908, xii, No. 1.
2. Plagemann: Verhandl. d. Deutsch. Roentgen-Gesellsch., Sept., 1908, iv.
3. Vos, O.: Verhandl. d. Deutsch. Otol. Gesellsch., Mar., 1907, reprint pub. by Gustav Fischer in Jena; also abstr. in Ztschr. f. Ohrenh., July, 1907, liv, 208.
4. Winckler: Abstr. Ztsch. f. Ohrenh., July, 1907, liv, 209.

bone on the opposite side of the skull. At this angle the best skiagrams were obtained. In this position Dr. Lange found that the axis of the *x*-ray diaphragm was tilted upward at an angle of 25 degrees from the base of the skull (Reid's line), and that it was inclined backward 20 degrees, from the vertical plane passing through both external auditory canals. Figure 1 illustrates this double inclination. In a previous paper on this subject[5] I have given further details concerning the technic, and these need not be repeated here.

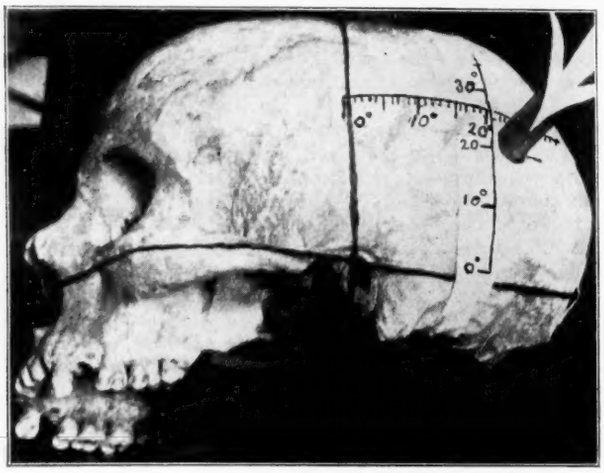


Fig. 1.—The arrow indicates the inclination at which the radiogram should be taken, *i. e.*, the *x*-ray diaphragm should be tilted backward 20 degrees from the vertical plane, and should be inclined upward 25 degrees from the horizontal plane. (As measured by Dr. S. Lange.)

RADIOGRAPHY OF THE NORMAL MASTOID REGION

In the normal subject; skiagrams obtained by this method delineate the following: (1) The mastoid process with its cells; (2) the position of the external auditory meatus; (3) the line marking the floor of the middle fossa; (4) frequently the position of the groove for the sigmoid sinus.

Many plates in addition show the floor of the posterior fossa, the ascending ramus of the mandible and the suture lines radiating from the asterion. Figures 2 and 3 show all the landmarks above mentioned. From these and similar plates it will be apparent that the internal anatomy of the temporal bone may readily be determined by radiography. Considering the great variability in the structures of this bone, the knowledge so obtained prior to operation will prove of great value to the surgeon.

RADIOGRAPHY OF THE PATHOLOGIC MASTOID REGION

Among the pathologic cases examined were seven cases of chronic otorrhea, one subacute case and four acute cases.

In cases of suppuration of long standing, attended with osteosclerosis and obliteration of the mastoid cells, the dense bone shows very distinctly, and the sigmoid groove very often stands out sharply in the picture. The position of the antrum may be indicated if the overlying bone is not too dense. Seven of the cases which had been radiographed came to operation and the *x*-ray findings were in a great degree confirmed. It may be interesting to recount these cases somewhat in detail.

RADIOGRAMS CONTROLLED BY OPERATION

CASE 1.—L. K., male, aged 21. Diagnosis: Chronic suppurative otitis media on the right (of uncertain duration). *X*-ray examination showed a dense shadow over the right mastoid region, with the absence of cellular structure. The position of the sinus is indicated. The left normal mastoid region showed an enormously developed pneumatic process. Operation, Aug. 28, 1908, confirmed the findings in the right ear.

Remarks.—In this case it seems likely that the chronic suppuration retarded the development of the right mastoid.

CASE 2.—M. S., male, aged 12. Diagnosis: Chronic suppurative otitis media, right and left, of seven years' standing. *X*-ray examination showed a diploetic mastoid, a high tegmen, and the line marking the position of the sinus. A meatomastoid operation (Nov. 21, 1908) showed the anatomic relations as in the radiogram.

Remarks.—The tip was not disturbed because it appeared normal in the radiogram. In the light of subsequent experience, the radiogram in this case would have indicated that operation might have been deferred.

CASE 3.—A. Z., male, aged 55. Diagnosis: Subacute tuberculosis of left middle ear and mastoid. *X*-ray examination (two plates at different times) of left ear only, showed a very large pneumatic mastoid with hazy outlines of its cells. Radical operation revealed pus and granulations in the middle ear and antrum, and showed serum in the mastoid cells, some of which extended behind the sinus.

Remarks.—Some of these cells might have been overlooked had they not been delineated in the radiogram.

CASE 4.—H. N., male, aged 62. Diagnosis: Chronic suppurative otitis media in left ear with caries of the promontory; unhealed radical mastoid in the right ear. Radiogram

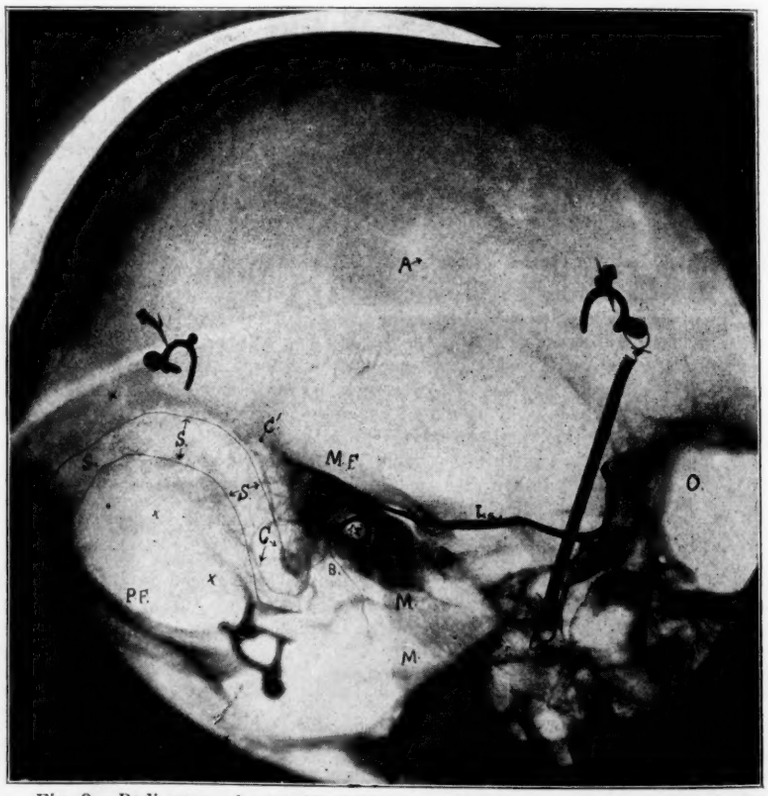


Fig. 2.—Radiogram of mastoid region of a skull: • auditory meatus; M F, middle fossa; L, lead foil in middle fossa; C, large cell at the mastoid tip; C,' smaller cell; S S, sinus (marked by wires); B, jugular bulb; P F, posterior fossa; O, orbit; X X, suture.

5. This article will appear in the Annals of Otology.

(Fig. 4) of left mastoid region showed dense shadow of osteosclerosis, and a few cells, just indicated, in the antrum region. A small break was noted in the line of the middle fossa and a tentative diagnosis of a defect in the tegmen antri was made. Radiogram of the right ear showed large opening made by a previous operation.

Operation.—Dec. 29, 1908. This revealed a dense sclerosed mastoid, large antrum filled with pus and granulations, and a defect in the tegmen antri with the dura covered with granulation at this point.

Fig. 3.—Tracing from radiogram. Normal. Mastoid region of a child. M F, middle fossa; C C, mastoid cells; S S, sigmoid sinus; J, jaw; Z, zygoma; P F, posterior fossa.

Subsequent History.—The patient died on the forty-first day after the operation. Postmortem revealed tuberculous lesions in apices of both lungs and a tuberculous caries of the right internal ear and pyramid. The temporal bone, showing defect over the antrum, was removed.

CASE 5.—H. B., female, aged 4. Diagnosis: Chronic mastoiditis on the left; right ear normal. *X*-ray examination: An excellent picture of the left side showed a dense shadow of osteosclerosis and clear zone corresponding to the middle ear and antrum, the sinus being sharply outlined (Fig. 5). The right mastoid shows normal diploetic bone and the sinus (Fig. 6). Operation Jan. 11, 1909, showed a small fistula in the external auditory meatus leading into the antrum, which was filled with granulations; the sinus was not uncovered.

Remarks.—There is a striking contrast between the radiograms of the right and left mastoid regions.

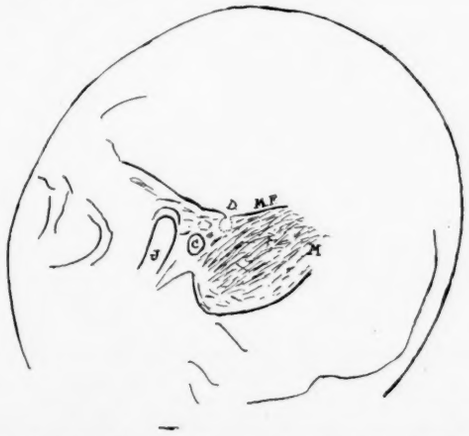


Fig. 4.—Tracing from a radiogram showing osteosclerosis of mastoid (left) and a defect (?) in tegmen antri. M, sclerosed mastoid; M F, middle fossa; D, defect; C, external auditory meatus; J, mandible.

CASE 6.—F. M., male, aged 2½. Diagnosis: Acute otitis media with mastoiditis on the left. *X*-ray examination of the right side showed mastoid process of infantile type. The left shows the same in additon to the outlining of the posterior semicircular canal (Fig. 7). Operation Jan. 19, 1909, revealed softened bone about the mastoid antrum.

Remarks.—The outlining of the semicircular canal on the one side and not on the other would indicate that the bone over the canal was softened.

CASE 7.—J. R., male, aged 21. Diagnosis: Chronic suppuration in the right and left ear (of years' duration). *X*-ray examination (Fig. 8) of the right ear only (2 pictures) showed osteosclerosis, absence of cells from the tip region and a rather forward lying sinus. The meatomastoid operation (Feb. 3, 1909) uncovered a small deep-seated antrum with a few adjacent cells containing a few drops of pus; the sinus was not uncovered.

Remarks.—The tip of the mastoid was not disturbed, since the skiagram showed that it was not involved.

Fig. 5.—Radiogram tracing of left mastoid region, showing osteosclerosis of mastoid process*; M, middle ear; M F, middle fossa; S S, sigmoid groove; L L, suture lines.

In addition to the above, five patients on whom mastoid operation had been performed were radiographed after operation, and the appearance of the operation cavity noted. One of these skiagrams taken several months after a Schwartze operation was especially interesting, since it showed that a number of cells had not been opened, and still the patient had made a perfect recovery.

The number (four) of acute cases examined is too limited to permit of any definite conclusions being drawn. One of these came to operation as already described above. The second case, that of a little girl of 10, simulated mastoiditis. The Roentgen picture of the affected side showed a haziness of the mastoid cells with clear cells on the sound side. The patient recovered without operation, and the radiogram taken six months after

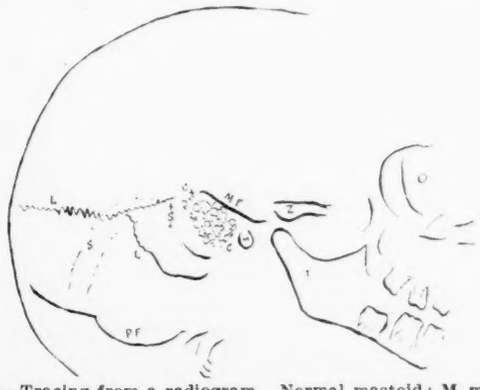


Fig. 6.—Tracing from a radiogram. Normal mastoid: M, meatus; M F, middle fossa; S S, sinus; C C, mastoid cells; P F, posterior fossa; L L, suture lines; J, mandible; O, orbit; Z, zygoma. (Right mastoid region of Case 5.)

recovery showed that the cells had regained their normal contour.

The third case of acute otitis media showed similar clouding of the cells on the affected side. These two cases are interesting as confirming the contention of v.

Troelsch[6] and of Politzer,[7] that the mastoid process is involved in most severe cases of acute middle-ear infection. The skiagram in the fourth case, which is too recent for complete description, shows a fistula leading into a large abscess cavity in the mastoid process. It appears probable that repeated x-ray examination in acute cases will give valuable information concerning the progress of the disease.

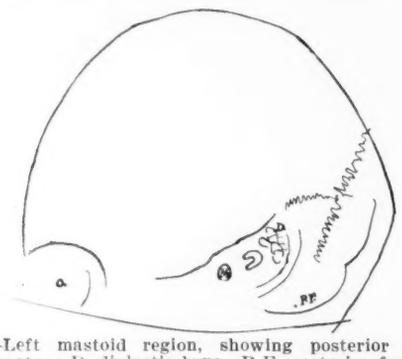


Fig. 7.—Left mastoid region, showing posterior semicircular canal: M, meatus; D, diploetic bone; P F, posterior fossa; O, orbit.

CONCLUSIONS

In conclusion it may be stated:

1. The most satisfactory Roentgen pictures may be obtained in oblique profile of the temporal bone.

2. The internal anatomy of the temporal bone can be determined prior to operation, and the knowledge so obtained is a great aid to the surgeon.

3. Osteosclerosis of the mastoid secondary to chronic suppuration can usually be diagnosticated by radiography.

Fig. 8.—Tracing from radiogram: M, meatus; I, antrum (?); M F, middle fossa; P, sclerosed mastoid process; S, sigmoid groove; Z, zygoma; J, ascending ramus of upper jaw.

4. It is likely that defects in the limits of the temporal bone will appear in the radiogram.

5. Cases failing to heal after operation should be controlled by skiagraphy, as this may reveal the seat of the trouble.

6. The value of the Roentgen examination in cases of acute mastoiditis remains to be determined.

22 West Seventh Street.

ABSTRACT OF DISCUSSION

DR. SYDNEY LANGE, Cincinnati: When Dr. Iglauer first asked me to do some of this work for him it was with misgivings that I undertook it, for I did not believe we could get any practical results, but since starting the work, I believe that with perfected technic this method will form an important link in the chain of symptoms that go to establish the diagnosis of disease in the mastoid bone. The technic is very difficult. It is perhaps as difficult to examine a mastoid in this manner as to examine a frontal sinus and antrum after the method of Drs. Coakley and Caldwell. The whole thing narrows down to this: If the technic is right we have here a method of outlining the anatomy of the mastoid bone. If the tube is just right the anatomy will come out very clearly. The lateral sinus and mastoid cells can be seen very well. From examinations of the cadaver and normal subjects I have never failed to get an outline of the mastoid cells, and in comparing the two sides they have shown close similarity. Reading *x*-ray pictures of the mastoid must be in terms of increased or decreased density, and by comparing the two sides we can draw inferences regarding the pathology of the line. Increased density of one side as compared with the opposite side means sclerosis, decreased density with indistinctness of cell outline means inflammatory softening or necrosis. As in all *x*-ray work, the picture of the mastoid is just one link in the diagnosis and should be regarded as such.

I was very glad to have the subject presented here in order that expert Roentgenologists may take up and further develop the method from this humble beginning..

DR. R. P. SCHOLZ, St. Louis: Without question radiograms are of great value in diagnosing conditions in and about the temporal bone. I believe that skiagrams of the two sides should be made for comparison. As an aid in outlining the cavities of the temporal bone and of fixing certain landmarks, I would suggest the injection of bismuth, in suspension in peroxid of hydrogen, into the tympanum; having the patient hold his head so as to favor the settling of the mixture to the mastoid. I recommend that this be used as a final examination in patients to undergo shortly the radical operation. If these precautions be taken there need be no fear of bismuth intoxication.

DR. J. HOLINGER, Chicago: This demonstration leaves the feeling that we are now more certain and safe in doing mastoid work. A sclerosed mastoid with deep-seated sinus comes out clearly. On the other hand, what we call a dangerous mastoid will show just as clearly. A short time ago we had a discussion in Chicago as to comparison of the mastoid processes of the two sides in the same individual. It was said that both mastoids are usually alike. I differed with that statement then, and do so now, inasmuch as I have often found in operating on both sides that the two mastoids differed markedly in the arrangement of the cells as well as in their size. I think if one mastoid is pneumatic, that is, contains many and large cells, the other one is similar and not likely to consist of one solid mass of bone. But I think the groove of the sinus may be shallow in one side and deep in the other. Large cells may be in one side along the sinus, in the other side they are in the tip of the mastoid, etc., and these are the points that interest us in the operation.

DR. B. A. RANDALL, Philadelphia: As in all radiographic work, it takes an expert to translate the picture; with all his knowledge, the aurist himself may be at fault and the results in certain cases may not justify his anticipations. In one case, a large hyperostosis filled the canal and it was impossible to determine clinically where it had its origin. With the picture this was easily seen. Such information may at times be very valuable.

DR. C. F. WELTY, San Francisco: In taking up something new we must demonstrate how and why we are going to be benefited. In these pictures a lesion of the bone will show, but after all, what does that amount to? You have a case in question, a case of acute otitis, for instance; your indications for operative interference are quite well established now and generally accepted by all. If you follow these I do not think it is necessary to have an *x*-ray picture. When it comes to the chronic cases, if we follow the most approved indications for operation we can go ahead with our operative work without fear. As to the sinus encroaching on the wall, if we uncover it with the first blow of the chisel, we must know how to go ahead without getting into the sinus. If the dura is

6. Troelsch, A. von: Lehrbuch der Ohrenheilkunde, Leipsic, 1881, pp. 291-410.
7. Politzer, A.: Ohrenheilkunde, 893, p. 417.

uncovered it is of little consequence. So, after all, while it is a very beautiful thing, I do not see that we profit a great deal by it.

DR. FRANK ALLPORT, Chicago: I do not feel that criticism such as that of the preceding speaker should be made without some challenge. We can not say that any progress, anything that sheds light on a case, should be brushed aside as of no use, or not of distinct use. Those of us who have operated on many mastoid bones will, I am sure, feel that we would have been glad if before we operated we had known the internal condition of things. I have many times found conditions that I would like to have known about before operating, and I certainly think it would be unwise to pass up such work and say that it is not of much use. It is unquestionably of great use.

DR. S. MACCUEN SMITH, Philadelphia: This past winter Dr. Manges has been doing some of this work. It seems to be of little worth in acute cases, but it certainly is of considerable value in pointing out two features of the greatest interest to the operator—the position of the lateral sinus and the condition of osteosclerosis.

DR. SAMUEL IGLAUER, Cincinnati: I am very much pleased with the discussion and that Dr. Lange was able to take part in it. This work requires an expert radiographer as well as an otologist and I agree with Dr. Randall that it takes these two to make the diagnosis. It is important to take all the pictures in the same way and at the same angle. The suggestion concerning the injection of bismuth seems to me a good one. I believe Dr. J. Beck of Chicago is employing this method. I have put a piece of lead foil in the meatus and another piece on the tip, and the pieces of metal give two fixed points, which serve as guides in interpreting the radiograms. There is often a difference in the two mastoids, especially if one be diseased. Chronic inflammation in the mastoid retards development on the inflamed side. It is true that we have been able to get along without the *x*-ray, but that is true in general surgical work also. It might as well be said that fractures of the long bones can be treated without *x*-ray pictures. Of course they can; but we know that they can be treated to much better advantage with the aid of the *x*-ray. I am pleased to learn that Dr. Smith's findings correspond with mine, and agree that we can not as yet tell much about the acute cases.

BRONCHOSCOPY AND ESOPHAGOSCOPY

GLEANINGS FROM EXPERIENCE *

CHEVALIER JACKSON, M.D.
PITTSBURG, PA.

One hundred and five deaths, recorded in North America in five years, from foreign bodies in the air and food passages, or from ill-advised efforts at removal, show the necessity of acquainting the general profession with the advances already made and still being made in esophagoscopy and bronchoscopy. Further, I wish to report cases which point out lessons for us all. As evidence of the prevalence of blind groping after foreign bodies, 36 per cent. of the foreign-body cases that have come to me have been in a state decidedly the worse for

Fig. 1.—Specimen forceps tip to fit universal handle. The side jaw will bite into a flat lateral wall. The cross forms the bottom of a basket to hold the tissue removed.

the unjustifiable, obsolete attempts at removal, which, moreover, had failed to remove the intruder.

In one case, seen in consultation, a child of 2 years was dying from acute esophagitis. A penny had lodged in the esophagus five days before. Forceps had been passed blindly, without an esophagoscope. Two days after this utterly unjustifiable procedure, the temperature was 104 degrees, pulse 150. When I saw the patient, five days after operation, the temperature was subnormal, pulse fluttering and uncountable, sloughs were being vomited, and the child was sinking away in the profound shock of a traumatic esophagitis. I concurred in wording the death certificate: "Death from acute esophagitis following the swallowing of a penny." It was really due to the absolute ignorance of the family physician who had never heard of esophagoscopy, and its safety in trained hands.

In another instance a prominent surgeon did a rapidly fatal thoracotomy for a glass bead which at autopsy was found free in the right bronchus. The pathologist who did the autopsy called the surgeon's attention to the

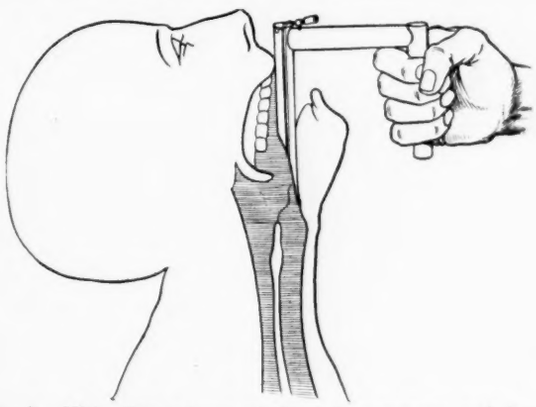


Fig. 2.—Misleading schema of direct laryngoscopy and bronchoscopy.

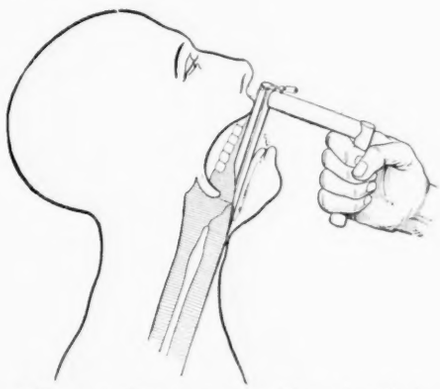


Fig. 3.—Schema showing correct position of patient and of the instrument in relation to the air passages. The instrument should touch the upper teeth very gently if at all.

fact that in such a case the foreign body could have been readily removed by bronchoscopy. The surgeon said: "What is bronchoscopy?" In that town were two men competent to remove that bead quickly and safely.

There were three thoracotomies for bronchoscopically removable foreign bodies reported in 1908. They were published admittedly because the patient survived the operation. It is hoped that no one will misunderstand me. No criticism can attach to thoracotomy for the evacuation of an intrathoracic abscess following the lodgment of a foreign body that bronchoscopic methods have failed to remove. In the three cases mentioned the patients were never examined bronchoscopically, and there was no wait for abscess formation.

I have used the esophagoscope in forty-one cases for foreign bodies in the esophagus, in all but one of which the intruder was removed. In this one case, a child of 2

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

years had a double-pointed, partially straightened tack, shaped like a fish-hook, in the esophagus. One point had perforated and the other point had almost disappeared. Slight traction on this one point was found ineffective, and strong traction was deemed unsafe; the tack disappeared from the esophagus and wandered into the pleural cavity. The case was fluoroscopically watched by Dr. John W. Boyce. After abscess formation around the tack at the bottom of the pleural cavity, and not until then, Dr. Boyce advised thoracotomy, which was skilfully done by Dr. James McFarlane, who resected a rib, evacuated the pus and removed the tack. The child made a good recovery, and now, six months later, is doing well, though the fistula which communicated with the esophagus is still discharging.

I have practiced tracheobronchoscopy on thirty-two patients with foreign bodies lodged in the air passages below the glottis. In twenty-eight of these cases the foreign body was removed, not removed in four. There were no deaths from any cause whatever within thirty days, which was as long as the cases were followed.

Fig. 4.—Correct position of the cervical spine for esophagoscopy and bronchoscopy. Radiograph by Dr. George C. Johnston.

By this I do not mean that there is no mortality from tube work. I have had two deaths from anesthesia for direct laryngoscopy. One patient, a child, died in convulsions three hours after the removal of papillomata from the larynx. Idiosyncrasy to cocain was the cause. The other patient, a man of 46, died about one week after direct laryngoscopy for the removal of a laryngeal neoplasm. There was a gangrenous bronchitis due to delayed chloroform poisoning. He had an old bronchial history. Anesthesia was impossible, and the anesthetic was abandoned, the operation being finished without an anesthetic. In neither of these cases was there any instrumentation whatever below the larynx. They were for diseased conditions, not for foreign bodies, and they were the only fatalities in over 300 cases of tube work. They point clearly to the necessity of developing such a great degree of skill that little or no anesthesia is needed. If as much time were spent in acquiring skill in tube work as in golf or billiards, tube work would be about the least dangerous of all surgical procedures.

ANESTHESIA

For esophagoscopy in infants I now do not use any anesthetic, general or local. It is not necessary, if the esophagoscope be very carefully and skilfully passed, and, most important of all, if the patient be held in the Boyce position by a trained assistant. In adults, the relaxation of a general anesthetic is advantageous, though not absolutely necessary, except in a few conditions. Foreign bodies in the esophagus are just as apt to cause dyspnea as those in the trachea.

In direct laryngoscopy the lessening of the cough reflex is usually necessary for careful work under direct inspection. The blades of the forceps must never be closed unless their closure is carefully guided by the eye. This necessitates a lessening, or, in some instances, the total abolition of the cough reflex. In children the sparing administration of chloroform is safer than the local use of cocain in most cases, though, of course, the bronchoscope must be instantaneously introduced into the trachea and kept there, if there is any respiratory difficulty. The bronchoscope is a better breathing channel than a tracheal wound. Oxygen and amyl nitrite can be administered directly through the tube, in any idiosyncratic chloroform intoxication. Respiration is

Fig. 5.—Curved position of the cervical spine in the Roser position, rendering esophagoscopy and bronchoscopy difficult or impossible. The devious course of the pharynx, larynx and trachea are plainly visible. Radiograph by Dr. George C. Johnston.

more often arrested in the endoscopic removal of foreign bodies from the esophagus than in tracheo-bronchial cases, though laryngeally lodged cases are worse in this respect than any of the others.

INSTRUMENTS

I have reduced my tubal armamentarium to four tubes and two slide speculums. It is impracticable to have one tube for adults and children, or the same tube for the esophagus and the bronchi. This means one bronchoscope for adults and one for children; one esophagoscope for adults and one for children. A good working set would be the following:

1 bronchoscope, 5 mm. by 30 cm. for children.
1 bronchoscope 7 mm. by 40 cm. for adults.
1 esophagoscope 10 mm. by 53 cm. for adults.
1 esophagoscope 7 mm. by 45 cm. for children.
1 adults' slide speculum.
1 childs' slide speculum.
1 aspirator for the esophagoscopes.
1 specimen forceps, long and short (Fig. 1).
1 foreign-body forceps.
3 Coolidge sponge-holders.

1 Sajous cotton-holding laryngeal forceps, for cocainizing the pharynx and upper laryngeal orifice.
1 double bronchoscopic battery.

No practical effort has yet been made to adapt the tallow candle or a kerosene lamp to endoscopy. We are compelled to use electric light of some kind. If the endoscopist is not of a sufficiently mechanical turn of mind to keep his electric lights burning he will not have the

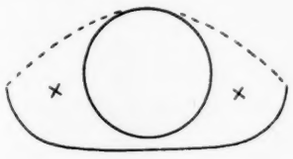


Figure 6.

Figure 7.

Fig. 6.—Schema showing relation of the cricoid cartilage (the circle) to the posterior hypopharyngeal wall, in the dorsally decumbent patient, observer looking down the esophagus. The pyriform sinuses are at the position marked X.

Fig. 7.—Thimble gag or bite block for bronchoscopy and esophagoscopy.

greatest success in foreign body work, for it is a question of mechanics from beginning to end. It does not require great brain power or high intellect, but in some cases mechanical ingenuity is taxed to the utmost to get out the foreign body without interfering with breathing and without traumatism to the tissues. If the surgeon is not a mechanical genius he should have a skilled instrument-maker in the operating-room, or, better still, a trained surgical assistant who has the necessary mechanical ability. The simplest, best and safest source of current is a double dry battery; that is, two sets of four cells each. Each set should have two binding posts and a rheostat. I find men working with all kinds of makeshift batteries, the current from which, with only a cell selector for control, jumps up from underillumination to overillumination and burns out the lamps. Dr. Ingalls (who is a leading authority on bronchoscopy) and I concur in the belief that all forms of rheostats devised for adapting commercial circuits to tube work are dangerous when attached to a tube which makes a moist contact with tissues so close to more or less of the course of the vagi.

TECHNIC

Direct Laryngoscopy.—The illustration (Fig. 2) is schematically correct, but is very misleading. It shows the head thrown too far back. This is the position into which the patient will throw his head if allowed so to do; but, if he is allowed, a very poor view of the larynx will be obtained, and the trachea will not be in line with the slide speculum. Further, nearly every one infers from this illustration that the upper teeth are used as a fulcrum; the chipping of the enamel from the teeth is evidence of an incorrect position. Nothing could be worse, and it is impossible to get a good view or to pass tubes easily in this position.

Fig. 9.—Tacks removed by bronchoscopy from posterior branch of right inferior lobe bronchus of a woman aged 41 years, referred by Dr. Lewis G. Cole.

Figure 3 gives a more correct idea of the procedure. The head of the patient is drawn forward by the forward pull of the tip of the slide speculum placed on the epiglottis. The hyoid bone and all its attachments as well as the base of the tongue are drawn forward. The axis

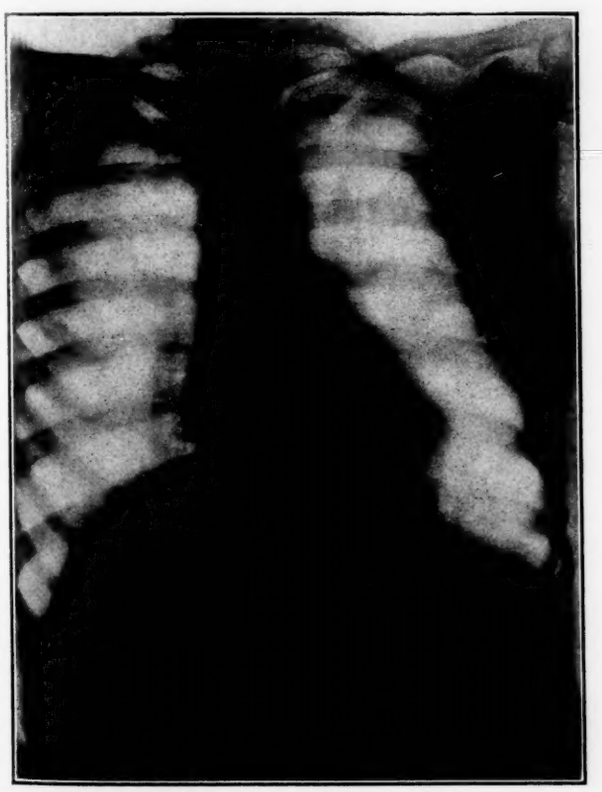


Fig. 8.—Radiograph by Dr. Lewis G. Cole, showing 2 tacks in a posterior branch of the right inferior lobe bronchus. Tacks removed by bronchoscopy through the mouth.

Fig. 10.—Radiograph by Dr. George C. Johnston, showing bone in the esophagus. Note the swelling of the esophageal walls and the clear outline of the air passages.

of the slide speculum corresponds to the axis of the trachea and this axis is not vertical, but leans forward toward the operator, about 20 degrees from the vertical. This exposure of the larynx is the whole art of introducing the bronchoscope. Until it is so mastered that the larynx can be exposed and held exposed to view indefinitely, no one should attempt bronchoscopy.

The foregoing description is of the technic in the upright position. In the dorsally recumbent position, the relation of the parts is the same, but an assistant must be trained to place the parts in the same position by raising the head, at the same time that it is squarely extended on the occipito-atlantal joint, not on the cervical spine. The shoulders slightly overhang the head end of the table, so that the head and neck are free to move under the control of the assistant who holds the head. This position not only brings the air passages in line, but the esophagoscope may be inserted with perfect ease and safety. The effort to use other and unsuited positions like the Roser and the lateral positions have led to accidents, and are especially dangerous in

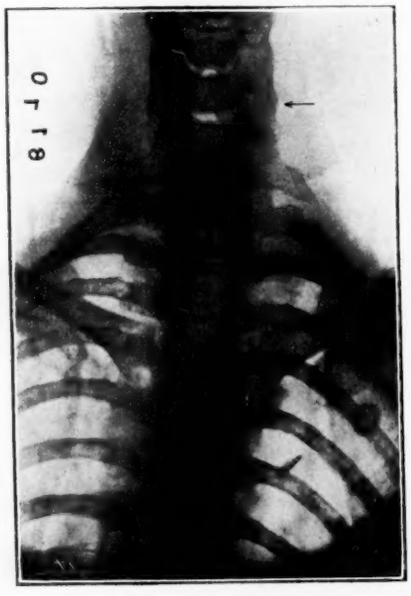


Fig. 11.—Radiograph of same patient. The piece of bone, though present at the level of the dart, does not show. An example of the misleading negative radiograph, and an indication for lateral as well as antero-posterior radiography.

inexperienced hands. I have with the greatest ease slipped a tube down a patient on whom esophagoscopy and bronchoscopy was after trial by others said to be impossible.

This was in no case due to any superiority in skill, but simply to the head and neck being held in the Boyce position.

Esophagoscopy.—The esophagoscope is pointed as a billiard cue, the operator having a mental picture of the course of esophagus beneath the bared neck. If the head is held in the Boyce position the cervical vertebræ are parallel to the esophagoscope, so that they are (in the recumbent position) in the horizontal plane (Fig. 4). If the head is held in the dangerous (for this work) position of Roser, the cervical vertebræ are curved (Fig. 5) and the esophagoscope strikes almost vertically on the convexity and can not be introduced into the introitus esophagi. If the attempt be made to pass the esophagoscope in the middle line it encounters at once the cricoid cartilage which is pressing firmly on the posterior hypopharyngeal wall. Very often, too, in the center line the tube mouth will hook over one or both the arytenoids and the voice will be damaged if force be used, but the chief obstruction is the posterior half of the cricoid cartilage. Nearly every one, on meeting this obstruction, uses force; this is a serious and often fatal blunder. If the esophagoscope is inserted in the pyriform sinus the tube will glide down like a pencil in a pocket. The position of the pyriform sinus is on either side of the cricoid cartilage, as shown schematically in Figure 6, which is drawn to show as if the operator were

Fig. 12.—Foreign bodies removed from the esophagus by esophagoscopy at the Eye and Ear Hospital, Pittsburg, Pa. Six coins also removed are not shown because illustration of United States coins is forbidden by law.

looking down the esophagus of a dorsally decumbent patient. The circle represents the cricoid cartilage resting on the posterior hypopharyngeal wall. The cross shows the pyriform sinuses, one on each side of the median line. These are the normal food passages, but it is through the right one that is most convenient for esophagoscopy.

A gag, properly so-called, should never be used. Some form of bite-block to prevent the patient biting the tube is necessary. The best and simplest is the thimble-gag of Boyce (Fig. 7). The slide speculum requires nothing, as it is of heavy metal that can not be damaged by biting. A widely spread gag may render bronchoscopy and esophagoscopy utterly impossible by jamming the lower jaw down on the hyoid bone.

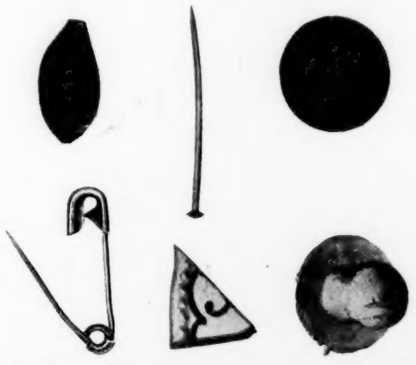


Fig. 13.—Foreign bodies removed from the bronchi by bronchoscopy bloodlessly through the mouth, at the Eye and Ear Hospital, Pittsburg, Pa. In addition 3 coins were removed.

In esophagoscopy for foreign bodies it is always better to introduce the esophagoscope without a mandrin, lest the foreign body should be located high up and be overridden. Every millimeter of the way down must be inspected, beginning with the pyriform sinuses. If even a start be given to the tube before the ocular watch be-

gins, a very large foreign body may be overridden and sometimes the foreign body will crowd the trachea and impede respiration.

Space forbids the illustration of all the radiographs and foreign bodies.

Westinghouse Building.

ABSTRACT OF DISCUSSION

DR. R. H. JOHNSTON, Baltimore: Nothing was said about direct laryngoscopy in the flexed position. Mosher of Boston, in an article in the *Boston Medical and Surgical Journal* advocates the left lateral position, which is as follows: the patient is placed on the table with the head slightly flexed on the chest; the head is turned to the left until the cheek almost touches the table. The mouth is opened and his special instrument introduced until the epiglottis comes into view when it and the base of the tongue are pulled upward, using the left upper bicuspid teeth as a fulcrum. So far as I know, he has used it only under general anesthesia. Last summer I had a case of papillomata in a child of 4 years and tried in vain to use Mosher's instrument. I flexed the head of the child on the chest, introduced Dr. Jackson's child speculum, pulled the epiglottis and the base of the tongue up, and obtained a splendid view of the larynx. In my next case, a child of 6 years, with dyspnea, I placed the child on the table, had her head, arms and legs held and succeeded in getting a good view of the larynx. In this procedure little force is used, because the tissues in a child's throat yield easily to slight pressure. With the smaller speculum there is no danger of loosening or breaking the incisor teeth. This method in my opinion will prove of more value to most of us than the method in extension. It is very simple and it will be found preferable to the other method. The great trouble I find in extension is that the operator is in a cramped position and the muscles of the neck are so tense that it is difficult to get a clear view. In the few cases in adults in whom laryngeal tumors can not be removed by the extension method, the flexed position again comes into use. An assistant pushes the thyroid cartilage back and brings the anterior part of the larynx into view. I have used this method in a number of cases in the last twelve months in children from 14 months to 6 years and have never failed to get a good view of the larynx. For diagnostic purposes it is ideal and for operative procedures superior to the extension position. In a little child seen some months ago the diagnosis could not be made with the mirror; the patient was placed on the table without anesthesia and the obstruction found to be in the subglottic space. To those who have used extension without success I would recommend this simple procedure.

DR. B. R. SHURLEY, Detroit: I would like to make a plea for more extensive digital exploration of the larynx in very young children prior to the use of the bronchoscope. In three cases in which I have had the instrument prepared for further investigation of these regions I have been surprised to find how far down I was able to reach with my finger. Having taken an *x*-ray picture in three instances in which a coin was lodged there the foreign body was located and I was able to dislodge it easily with the finger. The digital exploration of the larynx, if you are blessed with a long index finger, has many advantages.

DR. R. P. SCHOLZ, St. Louis: I believe that endoscopy is used too seldom; particularly is this true of the esophagoscope. I have observed that the esophagus has little or no pain and pressure sense and that even extremely large foreign bodies, lodged in the esophagus, produced mild or no subjective symptoms. One of my patients scarcely complained, with a piece of hog's vertebræ 2.6x2.8x0.8 centimeters in size, lodged in the esophagus 17 centimeters from the cutting edge of the upper incisors. This patient claimed to have a feeling of pressure over the superior notch of the thyroid cartilage. Dr. Jackson, while in St. Louis recently, told me that his patient, with a plate of artificial teeth in the esophagus, had only very mild if any subjective symptoms. This I believe indicates how readily foreign bodies in the esophagus may go undiscovered. I wish to cite a case which came to my notice while in the Pathological Institute in Vienna. A man, while eating fish, swallowed several bones. Esophagoscopy was performed and three large fish vertebræ were removed. Some time later when signs of mediastinal infection developed, it was attributed to the traumatism produced by the bone removed. The postmortem examination revealed a fourth vertebra lodged about 1 cm. below the lowest point of the esophagus explored. This case illustrates, I believe, how careful one should be to explore the esophagus thoroughly, and not be satisfied with the removal of a foreign body.

DR. J. R. FLETCHER, Chicago: I wish to emphasize the fact that more foreign bodies enter the bronchi than are now suspected. I had the pleasure of visiting Professor Killian's clinic in Freiburg some time ago. He told me that more foreign bodies were removed there than in all other parts of Germany together. He attributes this to the alertness of the physicians in the neighborhood. Because it was known that they were doing a great deal of this work patients are sent to them whenever foreign bodies are suspected. He showed me a patient under treatment who six years before had swallowed an upholsterer's tack.

CLINICAL MANIFESTATIONS OF ADENOIDS IN ADULTS *

OTIS ORENDORFF, M.D.
CANON CITY, COLO.

When we think of adenoids, a picture appears of a childish face, devoid of expression, dull eyes, thick lips and open mouth. This familiar face is so constantly before us that we almost recognize the listless type across the street. We are liable, however, to fail to recognize the disease when it occurs in a well-developed, apparently healthy adult, of age anywhere up to 50, giving a history like this: Catarrh was present during childhood, accompanied by the well-known symptoms of nasal obstruction. Perhaps there was also an attack of scarlet fever with a prolonged recovery. With the change from adolescence to maturity the symptoms of obstruction gradually lessened and troubles of a different type were noticed, for which the patient now seeks relief.

In order to make the clinical course clear I will diverge into the pathology. The reason that these patients frequently date the disease to an old severe attack of scarlet fever or measles is that bacterial invasions have more effect in enlarging and causing hypertrophy in the lymphoid structures of children than in adults. Again, the fauces and nares rapidly enlarge as the child grows older; hence the same amount of tissue would cause less and less obstruction and yet would retain its power of doing other damage. One would naturally suppose that the size of the vegetations would diminish as the individual advanced in life; this is probably true in nearly all cases.

Inspection in these patients shows the usual highly arched palate with the "adenoid fringe," or its remnants and the fauces and pharynx covered with a slimy sticky mucus. There is an enlargement of the lingual papillæ and there are nodules on the posterior wall—"granular pharyngitis." In my limited experience I have never encountered a case that did not exhibit this nodular condition on inspection high up on the posterior wall, and I have begun to believe that it will always be found as a complication in all adenoid patients over 15. The tonsils are usually sclerotic, burnt embers of the spent fires of the repeated attacks of acute or the slow destruction of chronic inflammation. The epipharyngeal mirror or the examining finger reveals the disease to be

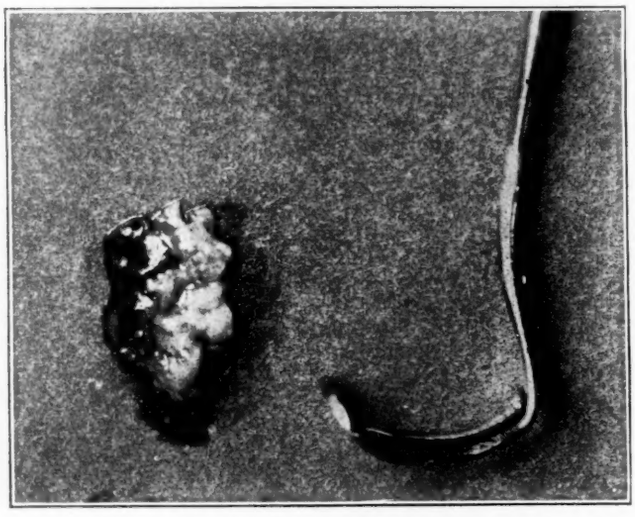
* Read before the Fremont County Medical Society, July 26, 1909.

of a more fibrous nature than in children, having lost to a degree the fish-worm character and being more in furrows and folds which run in an anterior and posterior direction. Somehow the real size is deceptive and there is always more of the tissue than would appear to be from examination.

These patients are apt to be dismissed in clinics with sprays and gargles, and in private practice with sprays and atomizers and other forms of what should be called "office suggestion." After a course of such treatment, patience ceases to be a virtue and the sufferer prefers to continue his unpleasant existence as it is rather than submit to the experiments which experience has taught him are of no avail.

In an average practice there should be four or five well-defined cases in a year.

The case from which this photograph was taken is one of the most instructive ones that I have recorded and it is presented as illustrating a type and also as a lesson in humility, as the underlying pathologic condition was overlooked by several good general physicians and by at least one specialist of reputation. When recognized it was not relieved by the first operation and for no other reason than that it seemed too simple for the exercise of careful technic. The accompanying illustration shows the real size of the specimen, with the old-fashioned curette which I have now discarded.



Second adenoid growth removed. The one removed the day before was fully as large.

Patient.—E., female, aged 38, single, well developed; home in Nebraska, temporary climatic resident of Colorado. (When an eastern physician exhausts his resources the patient is sent to Colorado for climate regardless of what the disease is.) She said that she had a dry mouth, slight deafness, frequent desire to clear the throat, which was not relieved by the almost constant hawking; ears hurt when nose was blown hard. At one time a douche was prescribed which brought on an attack of excruciating pain in ears which have been worse ever since.

Examination.—This showed the presence of adenoids, "granular pharyngitis," hypertrophied inferior turbinate on one side and the throat full of ropy mucus.

Treatment.—Only enough of the turbinate was removed to give clear space and the adenoids were supposed to be thoroughly curetted. The next day the voice was still muffled and examination showed the mass in the nasopharynx apparently as large as before although the quantity removed the day previously was fully as large as the specimen shown in the illustration. Local anesthesia was used as before and the mass removed under the inspection with the mirror by one sweep of the curette.

Remarks.—Evidently the tumor was bifurcated and the anterior portion was pushed forward into the posterior nares at the first operation. At the completion the patient at once remarked: "Doctor, you have removed something that has been stopping up my nose for years." She remained three weeks for treatment which consisted of massaging a strong solution of one of the silver salts into the nasopharyngeal membranes with use of the Eustachian catheter every third day.

Before operation the tuning-fork test was minus 30 and at the time of returning home three weeks later it was minus 15, both ears being about the same. A letter received two months later stated that the throat had given no trouble and that the mouth and ears were well.

Adenoids in adults are not common, as they usually disappear before maturity, but when they do not their character changes from those of childhood.

The patients are really sufferers and think that there is no relief because the "catarrh is in the system." There is no value in sprays and applications or internal treatments. Results of complete operation are satisfactory and permanent.

SUPPURATIVE ACCESSORY SINUS DISEASES

IN WHICH AN INTRANASAL OPERATION IS INDICATED *

HANAU W. LOEB, A.M., M.D.
Professor of Diseases of the Ear, Nose and Throat in St. Louis University
ST. LOUIS

The great majority of the cases of suppuration of the accessory sinuses of the nose are amenable to intranasal treatment at some period in the course of the disease. Suppuration of the ethmoid labyrinth responds most readily to this form of treatment, with that of the maxillary, sphenoid and frontal, following in the order mentioned. Intranasal treatment may be of no avail in suppuration of any of these cavities, however, if the process has been long-continued, or if the infection is rapid and virulent. Between these two extremes lies the field of intranasal surgery as applied to the suppurative conditions which involve the accessory sinuses of the nose.

The methods by which good results are obtained are various, and for their success depend largely on the personality and equipment of the individual operator; for a method which is satisfactory in the hands of one thoroughly familiar with the technic may be without favorable result in the hands of another who is accustomed to a different plan of operative procedure. Inasmuch as this paper comprehends conditions rather than individual methods, only casual reference will be made to the latter where the discussion requires it.

Besides discussing processes which call for intranasal lessons which anatomy teaches with respect to surgical treatment, however, it will be the endeavor to show the treatment of the accessory sinus through the nose.

To bring this more clearly into view, there are here presented lateral reconstructions of twenty heads, showing forty groups of sinuses with their relations shown to one another and to the floor of the nose, the turbinates, and the external contour of the nose and upper lip. The frontal, sphenoid and maxillary sinuses, and the contour of the nose and upper lip are shown in unbroken lines, the posterior ethmoid in dotted lines, the anterior ethmoid in alternate dots and dashes, the infundibulum in broken lines, and the turbinates in feathered lines.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

This makes it possible to see the exact relations of each factor that is brought up for consideration. The nasal orifices of the sphenoid and frontal sinuses are indicated in black dots. The method employed in reconstruction has already been fully described in previous papers on the subject.

MAXILLARY SINUS

An intranasal operation ordinarily suffices for the relief of simple, uncomplicated suppuration of the maxilliary sinus, provided there is no dental cause. Even then, relief may follow the intranasal operation if there is no active process going on in the teeth or alveolus. Furthermore, good results may be obtained by combining with the nasal operation the removal of diseased roots of teeth.

While a simple puncture through the nasoantral wall is often sufficient, as a rule the best results are obtained only when an extensive resection of this wall is made. This naturally requires the removal of a portion of the inferior turbinate, in this way affording ample space for irrigation and drainage. The well-known tendency of all these openings to contract, and, in many instances, to close altogether, further calls for a large opening which would, at least, do no harm.

Considering the variability in the size and shape of the maxillary sinus, it is always important to be sure that the opening is made into the sinus and not into the tissues anterior or inferior to it. If the opening is made too near the anterior extremity of the inferior turbinate, it may escape the sinus altogether; as, for instance, in heads II left, III right, IV right, VII, VIII left, IX, X right, XI left, XII, XV, XVI, XVII, XVIII, XIX, and XX. In these heads the distance between the anterior extremity of the inferior turbinate and that of the maxillary sinus is more than 5 mm. This distance is greatest in VII right, IX, XV left, XVI left, XVII, XVIII, and XX.

In IX the maxillary sinuses are so small that only a careful operator who has anticipated the existing state of affairs would have been successful at the first attempt.

In the main, the inferior turbinate courses along the nasoantral wall in a horizontal direction, but in a number of instances it inclines sharply downward and backward from its anterior attachment. This is particularly well shown in X right, XIV, XVIII and XX, in which it reaches the level of the superior wall of the sinus, or even higher. In only one instance, IX, does the inferior border of the inferior turbinate reach a lower level than the sinus, though in several cases the distance between them is not great: VI left, XII, XVI, and XVII right.

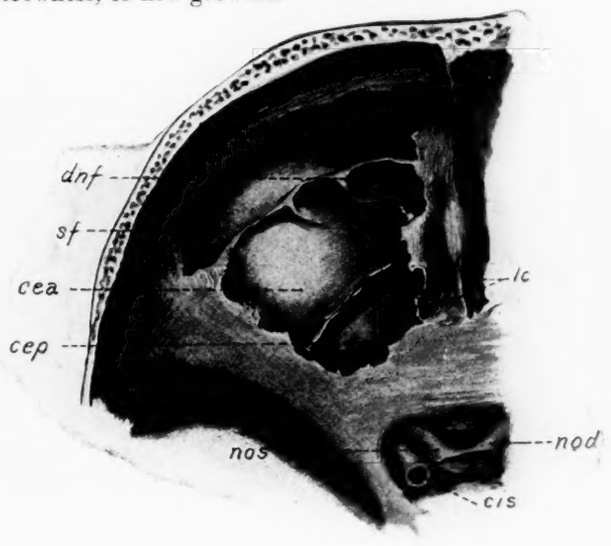
The position of election for opening the sinus, as ascertained by a study of these twenty heads, is just below the attachment of the middle portion of the inferior turbinate. This enters the sinus in every instance, and, in the main, at its most dependent part—at least, so far as possible, by using the inferior turbinate as a guide.

When the inferior turbinate has the great inclination already mentioned and the floor of the nose is widely separated from the turbinate attachment the portion of the nasoantral wall penetrated under this rule will be high above the floor of the sinus, so that it will be advisable to remove the wall below this for quite a considerable distance, easily determinable at the time of operation.

FRONTAL SINUS

In some acute cases, even when associated with ethmoiditis, operation through the nose will afford sufficient drainage and thereby result in cure. Even in the more chronic cases relief follows resection of the adjacent ethmoid cells and irrigation through the nasofrontal canal with or without enlargement. Although claims are made that well-marked cases of frontal sinus suppuration may be relieved by the various intranasal methods, it must be admitted that ordinarily nothing short of an external radical operation suffices.

A study of the reconstructions here presented throws some light on the accessibility of the frontal sinus to nasal operative procedures, and, at the same time, on the anatomic variations which make the operation uncertain, difficult or impossible. These comprehend the distance between the nasal opening of the frontal sinus and the anterior wall of the nose, the presence of an ethmoid cell or nasofrontal canal which reaches a high elevation, and, what can not be shown in these illustrations, septal irregularities, congenital narrowness, or new growths.



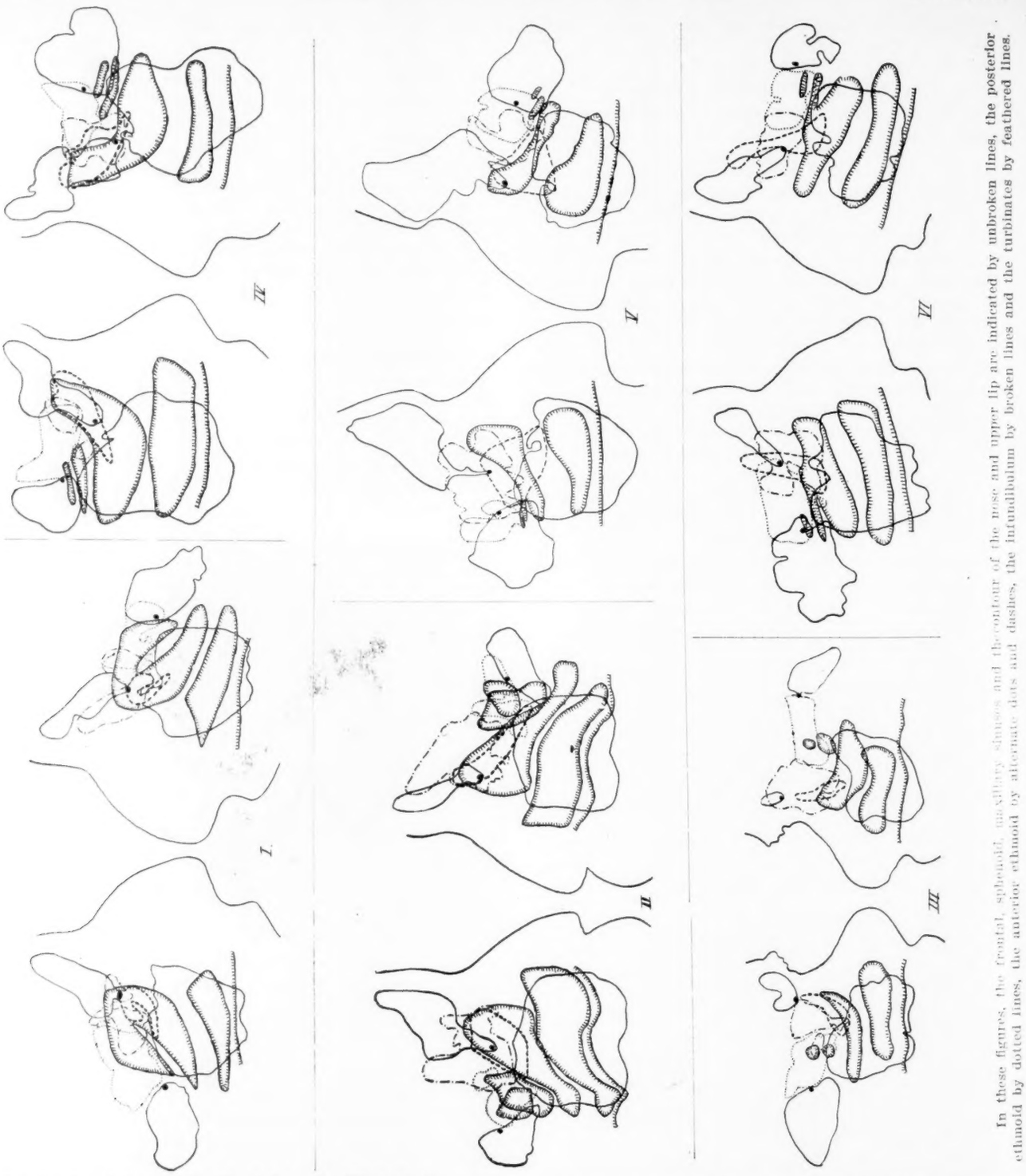
XXI

Frontal sinus (sf), anterior ethmoid cell (cea) and posterior ethmoid cell (cep), extending over the roof of the orbit; dnf, nasofrontal duct; lc, cribriform plate, nos, nod, optic nerves; cis, left internal carotid.

In the following a probe would readily enter the frontal opening without any likelihood of entering any other cell with which the frontal might be confused; of course, assuming that the operator understands the technic: I right, III right, IV, V, VI right, VII, VIII, X, XII, XIII right, XVI, XVII, XVIII, XIX right, and XX.

In only twenty-five out of forty instances, therefore, could the probing be accomplished with a reasonable degree of accuracy, and in several of these cases one who is not an expert might be deceived by the entrance of the probe into one of the adjacent ethmoid cells or nasofrontal canal. This can be more or less obviated by making a radiograph which would show how high upward the frontal extends.

In I left, II left, IX, XI, XIII left, XIV, XV, XIX left, an adjacent ethmoid cell reaches so nearly the superior level of the frontal that it would be practically impossible to state whether the probe was in it or



In these figures, the frontal, sphenoid, maxillary sinuses and the contour of the nose and upper lip are indicated by unbroken lines, the posterior ethmoid by dotted lines, the anterior ethmoid by alternate dots and dashes, the infundibulum by broken lines and the turbinates by feathered lines.

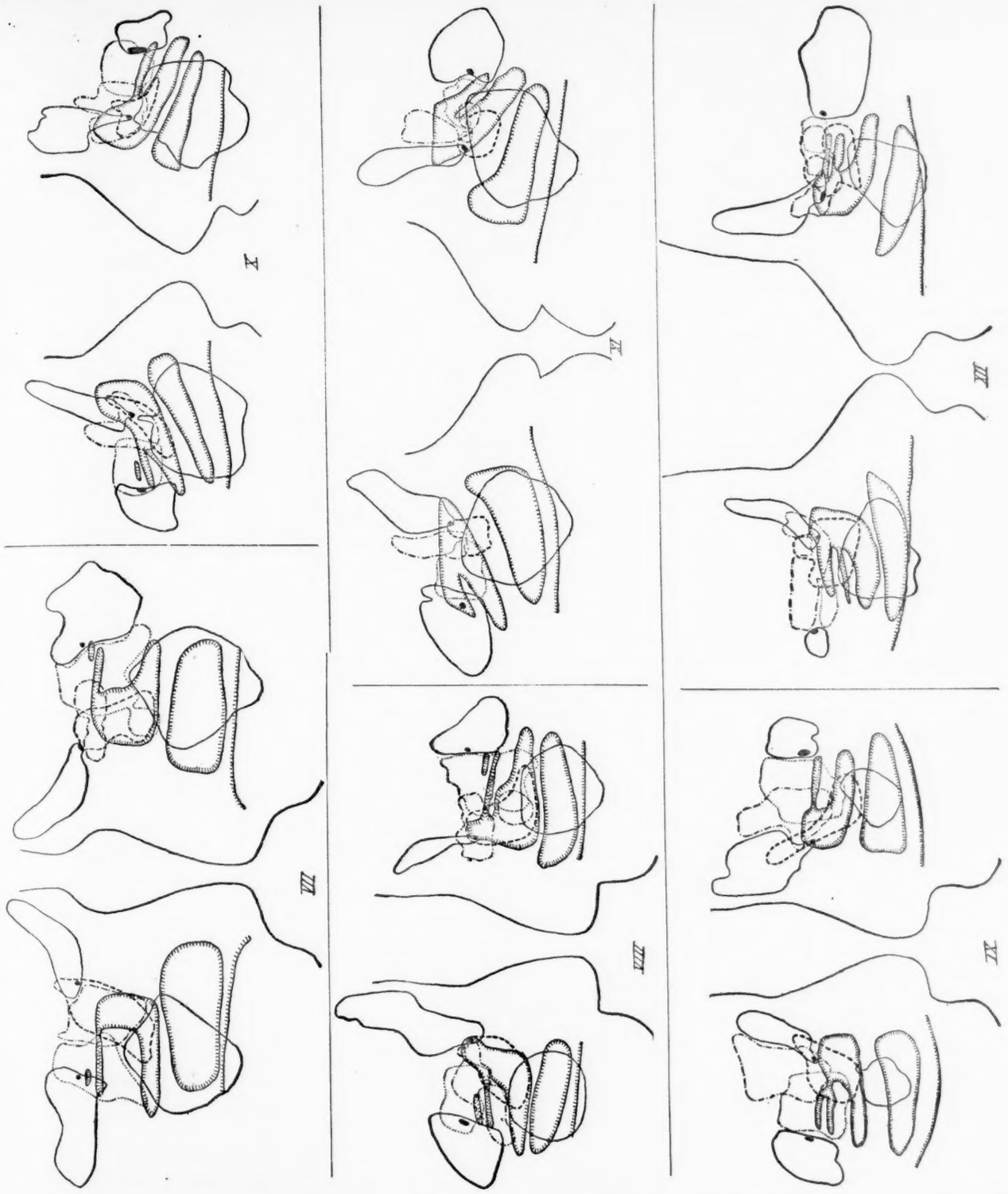
in the frontal, and in II right and VI left the naso-frontal canal occupies a similar relation. It is thus evident that there must be some doubt in almost half the cases as to whether the frontal sinus is being treated when intranasal operative measures are directed toward relief of frontal sinus suppuration. It must be admitted, however, that a careful study of properly taken radiographs will reduce this possibility of error considerably, but this involves lateral as well as anterior views, perhaps with probe *in situ*.

The intranasal operation has, therefore, a limited field of service, and is subject to much likelihood of error. There is, however, this saving clause—that, even if the operation is directed toward an adjacent cell, so much bone and other tissues will be removed that drainage from the frontal is promoted and the condition is relieved.

We do not anticipate a good result in those cases in which the frontal extends over the orbit and is affected in this portion.

ETHMOID CELLS

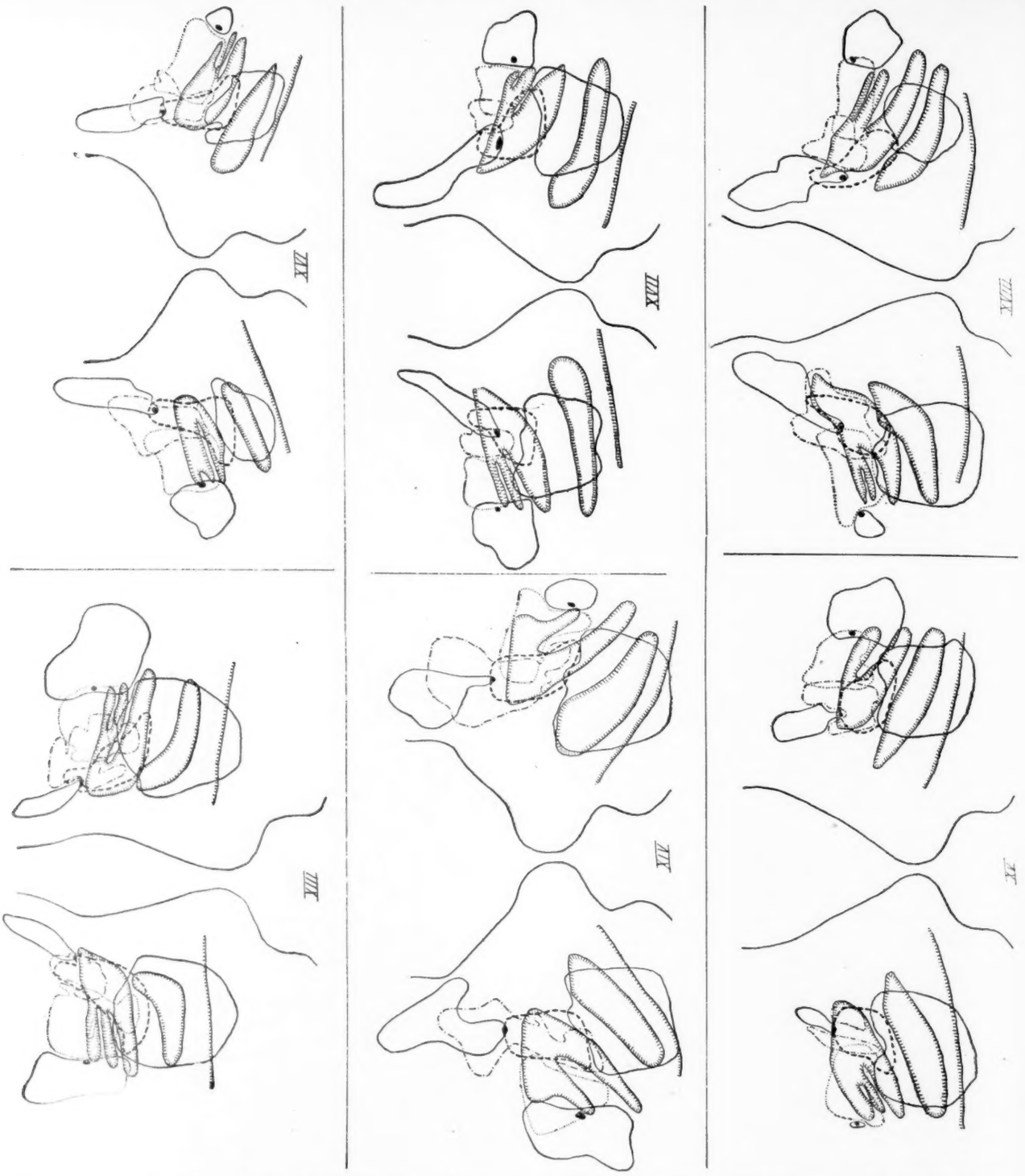
Ethmoid suppuration, when uncomplicated, practically always responds to intranasal treatment, for the entire ethmoid labyrinth may be exenterated by operation through the nose. The most anterior cells can not, sometimes, be freely opened and curetted on account of their nearness to the nasal bone. Hajek asserts, however, that it can always be done if the middle turbinate has been properly resected. There are occasionally



anomalies of development of the ethmoid cells, which render the operation either difficult or unavailing. For instance, in XXI, it will be seen how both the anterior and the posterior ethmoidal cells extend, in this particular case, over the roof of the orbit. In this position the cells could not be properly exenterated through the nose and would probably escape observation in a radical frontal operation.

Of course, there is always some danger in working in the dark, as it were, and the process may be most marked in the most inaccessible portion of the cells, which extend farthest from the seat of operation. Yet, it must be said that, as in all suppurative conditions, drainage does a great deal toward affording relief, and the operative field being in the most dependent portion of the cells, drainage is apt to be secured.

The truth of Hajek's contention—that if the middle turbinate is resected the most anterior of the ethmoid cells may be exenterated—is borne out by the figures. In only nine instances—I, III left, VII, VIII left, XIV left, XV left, XVIII right—does an ethmoid cell extend as far forward as the anterior extremity of the middle turbinate; and in most of these instances the distance is insignificant, certainly not sufficient to inter-



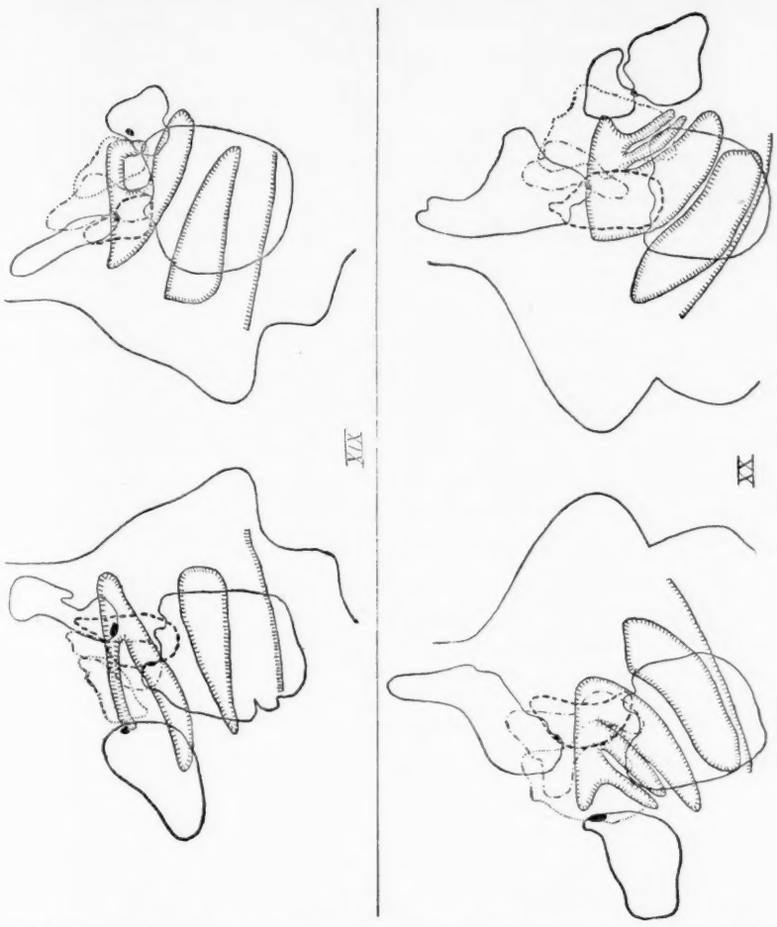
fere with the operation. The cells extend upward considerably in most of the heads, more than 10 mm. above the superior attachment of the turbinate in I left, II, III, V, VI, VII, IX, XI, XIII, XIV, XV, XVI, XIX and XX. This distance is very considerable in I left, II, III left, VI, XIII left, XIV, XV left, XVI and XX. In I left an ethmoid cell extends upward anterior to the frontal for a distance of 17 mm., while in IX right an ethmoid lying immediately behind the frontal reaches a higher level than the frontal.

These facts are important only in that they show how high up the ethmoid cells extend, thereby accounting for the recurrence of the polypi even after the floor of the cells has been removed; they emphasize the importance of thorough exenteration of the diseased part. It goes without saying that, however radical one may be in this operation, respect must be had for the cranial wall of the sinus.

SPHENOID SINUS

In uncomplicated cases, and those in which the ethmoid alone is involved with the sphenoid, the nasal route is the only one to be advocated. There is a growing disposition, even among those who formerly thought that the external operation was always to be advised, to rely more on the intranasal method.

The nasal operation can be of service only by the curettement and the improved drainage occasioned by the enlargement of the nasal opening. Whether this be



confined to the pars nasalis, or, as Hajek suggested, made to include the pars ethmoidalis, the endeavor is the same.

The location of the nasal opening of the sphenoid is such that in any suppurative process affecting it there is a quantity of pus more or less constantly present. Practically all the sphenoids here shown have the opening so far from the floor that this must be quite general. In most comparison will show that even extensive resection of the anterior wall will fail to reach the floor. The drainage which results from this operation, however, provided the opening be permanent, will generally be followed by disappearance of the pus.

The distances between the sphenoid orifice and the tip of the nose and the anterior border of the middle turbinate are given in the table:

DISTANCE FROM SPHENOID ORIFICE

No.	Anterior Tip of Nose. Right.	Left.	Anterior Border of Middle Turbinate. Right.	Left.
I	77	77	36	31
II	77	74	43	38
III	64	69	33	39
IV	75	72	35	33
V	72	74	30	31
VI	75	80	37	44
VII	88	93	37	39
VIII	69	72	29	38
IX	70	71	37	32
X	72	70	36	33
XI	88	89	37	33
XII	91	88	41	34
XIII	77	77	38	35
XIV	84	82	39	34
XV	86	79	41	31
XVI	71	71	30	35
XVII	77	77	41	39
XVIII	80	80	50	40
XIX	77	77	42	36
XX	87	92	37	40

For the first, the variations are from 64 to 93, the usual (leaving out the five shortest and longest) from 71 to 88, the average 78.

In regard to the distance between the orifice and the anterior border of the middle turbinate, the variations are from 29 to 50, the usual (leaving out the shortest and longest five) from 31 to 41, the average 37. This gives a fair idea of the length of the probe and operative instrument required.

In a previous paper I called attention to the greater likelihood of optic nerve involvement, in cases in which the nerve lies near the level of the orifice, for this would signify that the pus would be separated from the optic nerve by a thin bony wall only, instead of the air, which would intervene if the opening was at a lower level. Whether this relation can be ascertained by radiographic study is still to be determined, with fair prospects of success. At any rate, sphenoid suppuration with only the slightest suspicious eye symptoms calls for immediate operation.

I wish, again, to call attention to an observation made before this body two years ago, with reference to the four heads reconstructed up to that time, that in cases in which the middle turbinate has an inclination downward and backward the floor of the sphenoid lies at a lower level than the ethmoid, or at its level. Compare I, II, V, VI, X, XI, XII left, XIV, XV left, XVII, XVIII left, XIX and XX. It will be noted that this is confirmed in every instance, except XV right, in which the sphenoid is only a little pit 2 by 4 by 2 mm.—and the left sphenoid, which occupies the space usually given over to the right, follows the rule. A glance at XV, right, shows that, even though the sphenoid be small, it lies considerably nearer the level of the floor than that of the roof of the ethmoid.

In the other instances in which the middle turbinates run horizontally backward the floor of the sphenoid lies above that of the ethmoid. The exact value which this will have will depend on the further confirmation of the observation and on the subsequent development of its utility.

Humboldt Building.

Ligation of the Jugular in Sinus Phlebitis.—R. Botey of Barcelona says that he will present a communication on this subject at the International Medical Congress, and the *Archives Internat. de Laryngologie*, August, has, rather prematurely, published it. He states that he has encountered 8 cases of thrombophlebitis of the lateral sinus in the course of 404 mastoid operations, and that the 4 patients who survived the phlebitis had not had the jugular ligated, while this was done in the 4 other cases. He used to ligate as a matter of course, but his own experience and review of the literature have convinced him that in most cases ligation is useless at best, and is liable to do actual harm. He advocates curetting the sinus in case of otitic thrombosis, without the Gerhardt sign, curetting from the knee to the bulb, without ligating the jugular. When the jugular is manifestly affected, and can be felt as a hard cord, it should be opened, ligated over the clavicle and resected. Pulsation in the sinus is not a sign of phlebitis, he adds, but is merely a transmitted pulsation from the brain tissue.

ACUTE INFLAMMATIONS OF THE ACCESSORY SINUSES, SYMPTOMS, DIAGNOSIS AND TREATMENT *

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From a general standpoint, acute inflammations of the accessory cavities may be considered as primary and secondary. An inflammatory process involving the mucous membrane of the nasal cavity is the most frequent cause of acute sinus disease. Irregularities as to contour of the nasal cavity, not only interfering with the drainage of the nasal cavity, but also directing the current of mucous toward the opening of the sinus, is a common causal factor. These same pathologic conditions would by directing the current of air toward the opening of the sinus tend to carry infectious material into these cavities. This is especially true of the frontal, ethmoid and sphenoid sinuses. The narrow, poorly developed nostril, which frequently is seen as a result of postnasal obstruction in childhood (especially from adenoid vegetations), is often a cause of acute sinus involvement, owing to the fact of the abnormal arrangement of the intranasal structures, interfering with the normal opening into the accessory cavities both as to size and situation, and also interfering with the size and development of the cavity. Such irregularly formed nostrils and intranasal structures would naturally predispose the individual to inflammations of the nasal mucous membrane, which in turn would predispose to sinus involvement and infection, such lesion, however, being secondary to the primary nasal involvement.

Primary involvement of the nasal accessory cavities is a very rare condition. It may, however, be brought about by injury, or contiguity of tissue in which the nose was not primarily involved. In some cases in which the cavity is apparently primarily involved, if a careful history is obtained it will be found that previously to the existing attack there had been some inflammatory condition in the nasal cavity, with slight involvement of the accessory cavity. The nasal irritation having cleared up, yet the cavity was left susceptible, and later an exacerbation may be mistaken for a primary involvement. An important pathologic subdivision of the acute inflammatory processes of the accessory cavities is simple acute inflammation without infection and acute inflammation with infection. However, in acute catarrhal inflammation, unless it clears up in from twenty-four to forty-eight hours, on account of the constant presence of bacteria in the secretions, the simple catarrhal inflammation will become an infective one, so that from the standpoint of treatment they can be considered under the same heading, the difference being one of degree and severity rather than variety.

Occupation is an important predisposing factor, when the individual is subjected to irritating dust, vapors, or fumes.

Irregularities and abnormalities in the formation of the accessory cavities, the antrum, etc., may explain many of the peculiar and unique cases often reported. It has been shown by sections of the skull, with a view to demonstration of the relation of the accessory cavities to the nasal chamber, and to each other, that almost any size or shape of cavity or thickness of bone is possible, the antrum cavities varying in size from a little larger than a pea to three times the usual size, and extending under the floor of the nose.

With the possible exception of the maxillary sinus, inflammation of any of the other accessory sinuses may be attended with curious mental phenomena, these phenomena depending entirely on the severity of the inflammation, and whether or not there is any existing systemic lesion.

Too much importance can not be attached to the relation of these cavities to headache and neuralgia, and curious eye symptoms. It is the duty of the rhinologist and of the ophthalmologist to look carefully into the history of the patient as to whether there was any previous history or associated history of epidemic influenza, and whether there is any pathologic alteration of these accessory cavities. It has been my experience that many cases of curious and ill-defined neuralgia about the head and face have been entirely cured when attention has been directed toward the accessory cavities.

Physiologically, the accessory cavities are practically closed cavities, and while the mucous membrane lining is somewhat similar to that of the mucous membrane of the upper respiratory tract, yet the glandular elements and the terminal nerve filaments are not so numerous as in the respiratory mucous membrane. The epithelial layer is also much thinner and the submucosa not so resistant on account of the deficient blood supply.

It is a well-known fact that the obstructive lesion which interferes with the ventilation and drainage of the frontal, anterior ethmoidal, and maxillary sinuses is usually not located in the sinuses, or even in their ostia, but is in the hiatus semilunaris and infundibulum, or in the structures in their immediate vicinity. Any cavity lined with mucous membrane is predisposed to infection and inflammation when its drainage and ventilation are impaired, and therefore any anatomic or pathologic condition which causes obstruction to the flow of the secretions from the infundibulum, via the hiatus semilunaris, will predispose the mucous membrane lining the sinuses draining into it to infection and inflammation. It is obvious that if the obstruction to the drainage and ventilation is removed, the predisposition to infection and inflammation will disappear.

The nasal obstruction may be produced by many conditions: The nasal septum is frequently deviated toward the lateral wall of the nose in the region of the anterior half of the middle turbinated body, often crowding the middle turbinal against the outer wall of the nose, thus obstructing the drainage and ventilation of the frontal, anterior ethmoidal and maxillary sinuses. The middle turbinated body is frequently enlarged by edema, hyperplasia, or by the presence of accessory ethmoidal cells in its body, and may in consequence block the hiatus semilunaris; or the middle turbinal may cling closely to the outer wall of the nose as to block the hiatus. The bulla ethmoidalis is located immediately above the hiatus, and when enlarged it may overhang and completely obstruct it. The lip of the uncinate process, or median wall of the infundibulum, may be the seat of accessory pneumatic cells which may obstruct the infundibulum. New growths, spurs on the septum, and congestion of the mucous membrane due to underlying systemic conditions, are allegorical important factors.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The accessory sinuses, even in a simple acute cold, are slightly involved, and after the cold has disappeared a slight latent irritation remains in the cavity and may suddenly light up into a serious acute attack. In all the infectious diseases, with high temperature and necessarily vascular disturbances, nasal congestion occurs and the accessory cavities become acutely congested.

One-half of the arc of the orbit is taken up by the accessory cavities and many eye symptoms are associated with or follow lesions of these cavities. Orbital abscess is secondary to disease of the sinuses, displacement of the globe may be occasioned by encroachment on the orbit by a distended sinus, and blindness may result from an involvement of the chiasm through the roof of the cavity or by an implication of the optic nerve as it passes through its foramen, in the sphenoid, as a consequence of inflammation in the cells within that bone. A general orbital cellulitis may be occasioned by an acute inflammation of any accessory sinus. Edema of the lids is one of the most significant symptoms of disease of the accessory sinuses, the edema usually starting directly over the sinus involved. Paresis, or even paralysis, of one or more of the eye muscles may occur as a consequence of sinusitis.

Inflammatory processes involving the mucous membrane of the sinuses do not differ from those occurring in any other mucous membrane, except that they pass through the various stages with greater rapidity, so that the difference is merely one of degree or intensity. Any infection of the accessory cavities would necessarily be preceded by or associated with some inflammatory process, which process involves the opening of the sinus and thus converts it into a closed cavity, causing retention of the infectious material. This, in turn, intensifies the already existing inflammation and produces rapid changes in the mucous membrane, which if drainage is not established, may lead to total destruction of the membrane and necrosis of the underlying bony structure. If the severity of the inflammatory process is not sufficient to cause destruction of the mucous membrane and denudation of the bony walls of the cavity, a fibroid formation within the basement membrane may take place, or, in other words, the physiologic function is interfered with, resulting in permanent pathologic alteration.

As a rule, a combined acute infectious process within the accessory cavities shows irregular systemic symptoms, unless there is a point where the physiologic wall of the closed cavity has broken down, and rapid general septic infection takes place, when the clinical phenomena are pronounced. In other words, acute involvement of the accessory cavities amounts to a walled-in process, and it is only when necrosis takes place that sytemic infection occurs.

A point of considerable importance in regard to systemic phenomena, as well as local symptoms, is the size and shape of the cavity and the variations in the thickness of its walls. For example, a frontal sinus with thin walls may result in perforation and involvement of the brain cavity. Dural and subdural abscesses frequently follow pathologic changes within the frontal sinus. Again, in the case of the antrum of Highmore, when the superior wall is very thin, there will be marked eye symptoms, while in another case with a thick bony wall the eye symptoms will be entirely absent.

In acute inflammation of the accessory sinuses there is usually a history of exposure to cold, acute coryza, riding in an automobile or railroad train, or of influenza or other infectious disease. The pain is always of the dull, aching or boring character, influenced by position. Tenderness, marked over the sinus region, extends all over the head in the beginning, usually bone tenderness; the pain and tenderness are increased by percussion. Swelling, not always a prominent symptom, may or may not be present, and is irregular in extent. The patient has a curious symptom referable to the eyes. He states that when he tries to read and looks up, the eye on the side of the sinus disease hurts, the muscles seem to be involved in the edema, and there is slight edema of the lids together with ptosis. This enables the physician to tell whether one or both sinuses are involved. There is tenderness at the inner angle of the eye on pressure, more marked in frontal sinus than in the others.

In acute involvement of the frontal sinus, usually the involvement is accompanied by symptoms of acute coryza with mucopurulent discharge and intense pain over one or both eyes, and at the inner angle of the eyes. The pain is intensified by stooping forward, straining at stool, coughing, or by any sudden movement. The pain is not continuous, and is apt to cease at bed time to begin on awaking with increased intensity, and unless relieved by frequent hot douches and hot applications over the forehead, it becomes intolerable. There is also headache, with a feeling of fullness or constriction in the forehead. The symptoms are aggravated by using the eyes for reading.

In inflammation of any accessory cavity there is always "bone soreness," and the pain on pressure is not limited to nerve points. Various tender spots pointed out by certain authors are often misleading, owing to the fact of frequent irregularity in the size and formation of cavities. This is especially true of frontal and ethmoidal cavities. Irregularity of eye symptoms would at once suggest irregularity in these two cavities.

From a standpoint of diagnosis, the use of the *x*-ray can not be overestimated. It shows the extent of the involvement, the relation of structures, and the formation of the cavity, so that irregularities can be quickly recognized and predisposing anatomic factors easily discerned. Transillumination, unfortunately, is nothing more than an adjunct. In my experience it has been misleading as often as it has been useful, and should never be depended on in itself. However, in association with the clinical history, the careful examination of the nasal cavity, the thorough observation of the patient, and also a careful study of the *x*-ray picture, transillumination may aid in the diagnosis and treatment.

In my previous writings on this subject, I have urged the conservative method of dealing with these conditions, and by persistently and carefully shrinking the tissues about the orifice of the accessory cavity, have been able, in the majority of cases, to open the cavity by the natural orifice; in other words, to reverse the pathologic process. The cavity, which is an open cavity, has been converted into a closed one. By what process? Simply by inflammation with its accompanying swelling of the surrounding structure as well as the orifice. Certainly, then, by shrinking these tissues at the right point, drainage by the natural orifice can be obtained

In making the application to these points, the contour of the intranasal structures must be carefully observed; otherwise, the application will not be made at the right point. This, I think, will explain the failure in many

individual cases to secure drainage by the natural opening, and necessitate an unnecessary radical procedure. In my clinic at Jefferson Medical College Hospital, where from 10,000 to 12,000 treatments are made yearly, and also in my private practice, where many of these acute inflammatory involvements of the accessory cavities are observed, this plan has been successfully carried out for a number of years with such satisfactory results that radical interference has been practically eliminated in acute cases. In fact, in the last year, in only two cases, and they were of the chronic variety, was the radical operation necessary. Even in the chronic cases, unless there is bony necrosis, the same plan of treatment will give equally good results.

Since, in the majority of cases, the primary lesion is intranasal, the treatment, then, should be directed toward cutting short the inflammatory attack, reducing the swelling in the nasal mucous membrane, especially about the orifices of the opening of the sinuses, so as to allow free drainage of the accessory cavity. Once the normal opening is established it is remarkable how quickly an inflammatory lesion of the accessory cavity will clear up. The 2 to 4 per cent. solution of cocain is sufficiently strong to insure the proper amount of shrinkage of the inflamed and swollen tissue. Personally, I do not use the suprarenal extract, because in my hands I have observed that in many cases in which I have used this solution the after-irritation is so marked that it overcomes largely the beneficial results due to cocain. For this reason, I have ceased to use it. As stated before, it is essential to study carefully the individual case in order to locate the exact position of the orifice and its relation to the intranasal structure. For example, I have seen cases involving the maxillary sinus, in which it was said that it was impossible to open the natural orifice, in which the middle turbinate was of the scroll variety, and the solution had been applied on the outside of the turbinate and never underneath this body. With a little care and minute pledgets of cotton the mucous membrane underneath the scroll turbinate was shrunken and in a very short space of time the pus began trickling from the blocked up cavity. By keeping the membrane shrunken down, free drainage was established and without any surgical interference with the antrum, a permanent cure was effected.

This paper has to deal with the acute processes, and in an acute process necrosis would not occur. To be sure, if bony necrosis has occurred within any of the cavities, nothing short of opening that cavity and removing the necrosed tissue would effect a cure, but such cases must not be confused with acute inflammations, neither must cases that have become subacute or chronic, and are largely latent when lighted up by some acute process, be termed acute. This, I think, will account for many cases of disagreement as to diagnosis and treatment, whether or not it is actually an acute process, or whether there is some left-over inflammation which has been lighted up by some infection or nasal inclination. Illustrating this, a severe acute case was treated by this conservative method.

Patient.—A young man, aged 22, a medical student, was admitted to the hospital suffering with acute inflammation of the left frontal sinus. He had a temperature of 103 F., marked tenderness and swelling over the left frontal sinus, marked edema of the upper and lower lids, with considerable redness and discoloration. He was suffering from severe boring frontal headache, and the pain extended into the temporal region. He was restless and apprehensive. Two days before, following a slight cold, suddenly the symptoms of the sinus involvement began. The day before admission he had a decided chill, and these symptoms rapidly increased until he presented himself at the hospital as described above.

Treatment.—The application of a 2 per cent. solution of cocain was made at once to the swollen mucous membrane in the nasal cavity, and gradually carried up to the region of the frontal sinus opening. At the same time the general condition was treated by thorough cleansing of the intestinal tract by means of calomel and a saline purge. The application of cocain was continued until carried to the orifice of the sinus. In this particular case this was rather difficult, as the sinus opened rather high and posteriorly, and the superior portion of the nostril was narrow and obstructed. This was overcome, however, by making a short, sharp curve at the end of the applicator, and in this way carrying the cotton into the nasopharynx and bringing it forward and upward, it was possible to reach the opening. In less than two hours there was a free flow of pus from the frontal sinus. Heat was also applied externally and the resident physician was instructed to make the application at the first sign of blocking up of the sinus. In exactly three days all swelling and pain had disappeared.

Remarks.—At first examination the patient's condition was such that it seemed almost inevitable that the frontal sinus would have to be opened externally. This was obviated by the careful and faithful carrying out of the method of drainage by the natural orifice.

In 1898, I reported some cases in which apparently there was an acute involvement of the antrum, with all the symptoms pointing to such an acute inflammation, in which it was clearly proved afterward that the entire condition was produced by the accumulation of gas in the antral cavity. By directing the treatment to the orifice of this cavity the accumulated gas was allowed to escape and the symptoms rapidly disappeared. Since reporting those cases, I have observed the condition rather frequently, not only in my private practice, but in the out-patient department at the hospital.

From a general pathologic standpoint it should be remembered that the accessory cavities are truly such, and that they are not independent cavities. That they are accessory cavities to what? To the nasal respiratory tract. Hence, the origin of many pathologic lesions is the nasal cavity. It must be remembered also, that these accessory cavities are dependent on adjacent structures for nutrition. Also, when infected, the rhinologist is dealing with a closed cavity, but not a cavity of new formation, hence the pathologic alteration is not subject to the same law as that of a cavity of new formation.

I do not mean that never are we to perform the radical operation, but I wish to call attention to the fact that many patients who are subjected to the radical operation could and should be cured without any such procedure.

In general, then, the treatment should be directed to the cause and the removal of any interference with the natural drainage. Swelling of the nasal mucous membrane may be reduced by cocain or any solution that will shrink the mucous membrane; douching with warm alkaline solutions to favor drainage; measures directed toward the relief of the pain. Rarely, it may be necessary to wash out the cavity through the natural opening, an enlargement of this opening, or through exploratory puncture. If free drainage is not maintained the condition is likely to become chronic.

Value of Playgrounds.—The twentieth century has caught the real meaning of the unsurpassed Grecian classical education; and modern cities in spending millions for playgrounds are repeating history and we are entering the new educational renaissance.—J. E. Peaus, in *Hygiene and Physical Education.*

DISEASED CONDITIONS INVOLVING ACCESSORY SINUSES IN WHICH EXTERNAL OPERATION IS INDICATED *

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A discussion of the choice of operative measures necessary to relieve or to cure any pathologic condition in the body frequently has to take into account many factors other than those directly connected with the disease in question. Nowhere, perhaps, is this so marked as it is in discussing the advisability of treating diseases of the nasal accessory sinuses by intranasal surgery or by an external operation.

Rhinologists at present are at considerable variance, and personally I find myself, as the result of wider experience, changing my views considerably from year to year as to the desirability of resorting to an intranasal or an external operation for the relief or cure in any given case of sinus disease.

External surgical operations undertaken for the cure of disease of the frontal, ethmoid and sphenoid sinuses require a thorough knowledge of the anatomy of this region, acquired not only from the many excellent monographs on this subject, but also from an extensive practical experience resulting from numerous dissections. The operator should also have had a thorough training in general surgical technic and have acquired skill and reasonable rapidity in operating before attempting these long major operations. The proximity of the brain and the great variety in the size, shape and relation of these cavities to the cranium renders unskilled work on the part of the operator likely to be followed by serious consequences to the patient.

In all but the very acute cases complicated by cellulitis, when an immediate external operation is indicated, before deciding on recommending to the patient the intranasal or external operative route, a complete examination should be made. This includes:

First.—The determination of the number of sinuses involved.

Second.—Having a skiagraph made which, if good, will show the size and shape of the frontals and the number of septa within them; the width of the ethmoidal area and the approximate size of the sphenoids.

Third.—The general condition of the patient. In chronic sinus disease, the presence of marked disease of the arteries, heart, lungs or kidneys makes the external operation far more serious and frequently undesirable.

Fourth.—Determine, if possible, whether the disease is acute or chronic. In very few acute cases, not complicated by the external manifestations described later, does the condition require an external operation.

Fifth.—If acute, decide whether the history points to a simple acute inflammation of a previously healthy sinus or to an acute exacerbation of a chronically diseased sinus. In the latter case it is wiser to defer the external operation until the acute symptoms have subsided.

Sixth.—The severity of the symptoms, more especially of headache and its effect on the patients. I have not yet been able to determine why some patients suffer so much more from sinus disease than others. There is nothing in either the character or amount of discharge to help us, nor even in the size of the sinuses as shown by the skiagraph. As a rule, those with very large sinuses suffer more than those with small sinuses, but I have seen many exceptions to this rule. If intranasal operations fail to give the desired relief, then an external operation is indicated.

Seventh.—The ultimate result of the treatment of chronic sinus disease should be carefully explained to the patient by his physician. Intranasal methods relieve and may cure. The cavities remain and may again become infected. External operations remove all the diseased membrane, obliterate the cavities and result in a permanent cure. There is a scar and frequently some deformity in a portion of the anatomy where it is easily seen by the patient, and this fact alone often deters some individuals from submitting to the external operation.

Eighth.—As intranasal treatment necessitates frequent operations at short intervals, many who can ill spare the time for such treatment prefer the more thorough and less time-consuming external operation.

Ninth.—The neurasthenic patient who is prostrated each time any intranasal operation is attempted and rarely submits to enough being done to make much headway against the disease should be urgently advised to submit to the external operation.

Tenth.—Very narrow nasal chambers add greatly to the difficulty of intranasal operations, and to such patients with chronic suppuration of the frontal, ethmoid and sphenoid, we recommend the external operation.

CONDITIONS REQUIRING THE EXTERNAL OPERATION

When considering the diseased conditions in the various sinuses requiring external operation, it would seem best to divide them into an acute and chronic type.

1. Acute Frontal, Ethmoid and Sphenoid Involvement.—Whenever acute involvement of these sinuses is accompanied by marked edema of the skin of the forehead, eyelids or side of the nose, exophthalmos, orbital cellulitis, local heat, great local tenderness, with or without a rise in the body temperature, an external operation is imperative and should be done without delay for fear of supervening meningeal or other intracranial complications. On the other hand, it must not be considered that we would invariably advocate external operation for the relief of very slight local edema and swelling without first attempting by intranasal treatment to relieve the condition. It is possible that deflections of the septum, or large bony exostoses, might render it impossible to give adequate intranasal treatment, in which case external surgery must be resorted to. The proportion of acute cases demanding external operation is few as compared to those which can be cured by intranasal treatment.

2. Acute Maxillary Sinusitis.—Very rarely one meets with an osteomyelitis of the superior maxilla associated with acute maxillary sinusitis. Such cases should be treated by a larger opening and drainage through the gingivo-buccal fold. All other cases of acute disease of this sinus may be satisfactorily treated intranasally.

3. Chronic Suppuration of the Frontal, Ethmoid and Sphenoid.—As all three of these groups are usually simultaneously involved, we will consider them together:

A. Those associated with multiple polyp formation in the nose. Most of these cases are accompanied by such extensive alterations in the mucous membrane lining the frontal, ethmoid and sphenoid, that intranasal treat-

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

ment, while affording great relief, seldom affects a permanent cure. The polyps recur more or less rapidly in a large percentage of cases. An external operation may be relied on to cure.

B. Frontal sinuses which are demonstrated by the skiagraph to be of large size with one or more septa and extensive prolongations over the roof of the orbit can seldom be so drained by intranasal operations as to prevent the recurrence of the symptoms with each succeeding attack of severe acute rhinitis. If the patient's general condition, therefore, will warrant it, I advise an external operation for this class of cases in preference to repeated intranasal treatments.

C. Closed empyemata of the frontal as evidenced by recurring attacks of supra-orbital pain without the history of any secretion from the nose or nasopharynx or occasional scanty secretion, which the examining physician fails to detect, and in which the skiagraph shows an evident involvement of the frontal, are best treated by an external operation.

D. Cysts of the frontal and cysts of the ethmoid region which do not bulge into the nasal cavity are proper cases for external operation. In this class of cases the anatomic structures are considerably altered and absorption of the bony wall of the cranium not infrequently has been observed. Any attempt to evacuate the cysts through the nose is too much a matter of guess work to be called good surgery.

E. Those in whom a fistula has formed leading from the frontal or ethmoid are advised to have an external operation. The question of scar does not affect these patients, as they already suffer a disfigurement which may be considerably improved after the operation.

4. Chronic Maxillary Sinusitis.—My present belief is that very few cases of chronic suppuration of the antrum need anything more than a thorough opening through the inferior meatus to effect a cure. If these patients do not recover promptly, I search for involvement of the ethmoidal cells or frontal sinus, and find that by curing the disease in this region the antrum promptly ceases to discharge. If, however, there is a tendency to recurrence of the disease two or three times a year as a result of attacks of acute rhinitis, I then recommend thorough opening of the antrum through the canine fossa.

53 West Fifty-Sixth Street.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. KYLE, LOEB AND COAKLEY

DR. ROSS HALL SKILLERN, Philadelphia: Dr. Kyle, speaking of the treatment of acute inflammation of the frontal sinus, makes the following statement: "The cavity, which is an open cavity, has been converted into a closed one. By what process? Simply by inflammation with its accompanying swelling of the surrounding structure as well as the orifice. Certainly then by shrinking these tissues at the right point, drainage by the natural orifice can be obtained." While this is, of course, true, it is open to modification. In the majority of cases we are able to bring about relief by the application of cocain to the hiatus and surrounding parts, but it has been my experience that this relief is often but momentary, from one to three hours, on account of the degree of inflammation and the narrowness of the nasofrontal duct. The mucous membrane quickly again becomes turgid with blood. In these cases I resort to a procedure which has invariably given good results, that is, infraction of the middle turbinate. It is a simple procedure which can hardly be dignified by the term operation, being done as follows: Apply 20 per cent. solution of cocain between the middle turbinate and processus uncinatus, wait five minutes, then introduce a blunt submucous retractor and pry the turbinate away from the lateral wall of the nose. Sometimes this will fracture the turbinate at the base, but more often it is necessary to introduce a long Killian speculum and spring apart the blades. This will invariably bring about the desired result. The advantages of this procedure are self-evident, as we procure good drainage room without sacrificing any tissue. The after-treatment consists merely in keeping the bowels open and giving aspirin one-half dram every two or three hours.

Dr. Loeb calls attention to the ethmoid cells which extend so high up as to be almost inaccessible to the intranasal operation. In the endonasal radical operation, suppuration in these cells may be overlooked and only be discovered at some later date.

They can easily be reached and opened by the Grünwald forceps. When operating on the nose we see the inferior edge of the middle turbinate far up in the nasal cavity, and it appears as though we are getting on dangerous ground when we penetrate a half inch beyond this point. As a matter of fact, this edge is approximately only half the distance between the floor of the nose and the lamina cribrosa.

In operating on the sphenoid sinus, a condition is liable to arise which may be very confusing. After one has exenterated the ethmoid cells, if the pars nasalis of the sphenoid sinus is very narrow one is apt to mistake the posterior ethmoid cell for the sphenoid sinus. This error can be discovered by measurement and exploring the wall near the septum where the end of the probe would strike the remainder of the nasal wall of the posterior ethmoidal cells.

Dr. Coakley states: "In all but the very acute cases complicated by cellulitis, when an immediate external operation is indicated, before deciding on recommending to the patient the intranasal or extranasal route, a complete examination should be made." I do not believe an external operation is ever indicated in an uncomplicated case of chronic frontal sinus empyema in which the patient has not as yet undergone an intranasal operation. In other words, I mean that the chances of relieving the symptoms are so great that the endonasal procedure should first be resorted to. I wish to emphasize the clause: "Relieving the symptoms" not curing the patient. After they are relieved it is a personal equation with the patient whether the discharge, occasional headaches, and possible chances of arising complications shall persuade him to submit to a radical operation.

This brings us to the following question: If the pain and the sensitiveness, together with the secretion, although improving do not entirely cease, how long shall we wait before advising a radical procedure? It seems to me that this will depend largely on the mental effect produced on the patient. As Dr. Coakley mentions in his sixth condition, some patients suffer much more than others in uncomplicated cases. In those who do not find the discharge and headache particularly annoying, it is wise to wait weeks and even months, for these cases often heal spontaneously; on the other hand, if the patient seems to be in a fair way of becoming a neurasthenic in consequence of his symptoms, no matter how trivial they appear to us, an external operation is indicated; therefore, fixing a time for a radical operation after the endonasal procedure depends entirely on the individual characteristics of the case.

Finally, in advising a radical operation, we must remember that it is by no means a minor procedure and every patient radically operated on does not always mean every patient radically cured.

DR. J. A. STUCKY, Lexington, Ky.: I fully agree with Dr. Skillern that frontal sinus, or any nasal accessory sinus surgery, is by no means minor surgery. I have recently had two patients with amblyopia due to trouble in the sphenoid sinus, who recovered after operation on the sinus. I have also had two cases of involvement of the frontal lobe of the brain due to suppuration in the frontal sinus. In one a large part of the anterior lobe was destroyed by suppuration.

I want to emphasize Dr. Coakley's remarks in regard to the skiagraph, and also, for the benefit of those just beginning this work, the necessity of proceeding cautiously. The last

word has perhaps been said as to the time to operate on a mastoid, but this is not true regarding the operation on the nasal accessory sinuses. I am surprised that nothing has been said as to the mental disturbance in these conditions. I have published a paper on this subject and have now in course of preparation a paper going somewhat into detail as to the question of mental disturbance caused by sinus involvement.

Recently, I obtained permission to examine 1,000 patients in the Insane Asylum at Lexington, to determine the percentage having sinus trouble. The mental symptoms may be due to acute or subacute infection in the anterior part of the brain, the thickened and inflamed membrane being the cause. In no other way can we account for the subsidence of the symptoms after operation. Complete mental recovery may be predicted in many of these individuals after radical operation. I have proved this in five cases now and am surprised that more has not been written on this subject.

DR. R. H. GOOD, Chicago: I am afraid to use a drill of any kind in the frontal sinus, but I am not afraid to use my frontal sinus rasp. Those who have read my articles will recall that I described chisels, but I am indebted to Dr. Joseph Beck, who has persuaded me to do the operation without chisels. The middle turbinate is removed in part or in its entirety; then I bite out the ethmoid cells up to the cribriform plate; then after having done that I use the rasp. There are rasps on the market that are not made smooth on one side—they should not be used. The instrument should be smooth on one side but cutting on the other side and in front. The rasp is introduced up to the floor of the skull. The orbital surface is smooth. You can rasp forward and you can not do any damage to the cranial cavity. If the ordinary methods of straightening the septum and removing the middle turbinate and some of the ethmoid cells fail, then it is time to do this operation. I do it in all cases in which a frontal sinus operation is indicated except when I suspect tumor or brain complication. The opening one can make with this rasp is large, and if the external operation is necessary afterward there has already been established a large opening into the nose. The rasping is away from the brain, and no damage can be done to the eye because that side of the rasp is smooth.

DR. B. R. SHURLY, Detroit: It has been my privilege for a decade or more to travel the middle road in the treatment of disease of the accessory sinuses. Waves of radicalism have come from Europe and the earthquake region of our country and waves of conservatism have come from the east and middle west, but I have still traveled on the same old middle road. There are many interesting points to be weighed in considering these problems. First, we might divide all here into three classes: first, those who form their views from clinical experience; second, those who derive their views from clinical experience and private practice, and, third, those who form their opinions from private practice alone. It seems to me the question we should ask in each of these cases is just how we should like that sinus treated if it were our own. The problem of the bacteriology of the condition is one not sufficiently weighed. We have more difficulty in controlling a sinusitis that is due to the streptococcus or *Bacillus prodigiosus* than one due to the *Staphylococcus albus* or *S. aureus*. And the resistance of the patient and personal equation are such important factors in this class of cases that they should have great weight with us before we decide on operative procedure. We all understand the necessity for drainage and the necessity for having as thorough drainage as possible. We should have an *x*-ray picture in every chronic case. In the acute cases we should treat the patients carefully with sprays, keeping up proper drainage from day to day, washing out the region carefully with antiseptic solutions. I am proud to say that the American physicians and surgeons to-day stand for first of all the comfort of their patients, and that is something we should all be proud of. The procedure in chronic cases can be carried on in a very conservative way in the beginning. We should find out what the resistance of the patient will be, and what we can do with irrigation or vaccine therapy when feasible and then proceed to the removal of the middle turbinate or an intranasal operation. If necessary, as a last resort, the radical procedure may be adopted.

DR. PERCY FRIDENBERG, New York: I want to speak from the ophthalmologic standpoint as to the choice of operation. The danger of the intranasal route is accentuated by bone-cutting instruments, drills, rasps, and so on, which must be used blindly and may easily penetrate the orbit, or cranial cavity. The dangers of infection, hemorrhage, and of traumatism to various important nervous and vascular structures, as the optic nerve, internal carotid and cavernous sinus, must be considered. Finally, the accuracy and completeness of the intranasal operation are problematical, and can be determined, as a rule, only by the subsequent course of the case. When there is evidence of involvement of the orbit to adopt the intranasal operation is simply a loss of time. In the development of this subject the ophthalmic surgeon and the rhinologist have seen the cases from a different standpoint. In the eye clinics the patients come for ocular conditions, motor paralysis, orbital abscess, exophthalmos and pain or intractable headache. These cases, as a rule, the rhinologist doesn't see, just as we do not see the milder cases with only nasal symptoms. The objection to the external operation has been from a rhinologic point of view, the fear of injuring the eye and the lachrymal apparatus. And I want to call attention to the fact that the external operation does not necessarily affect either of these structures. There is less danger of ocular injury in the external operation where the operator sees the cells and can gauge the operation by the conditions present than there is in the intranasal procedure where he can not know whether he has removed all the diseased area or not. In the external operation he does know this. Radiography gives us a great deal of information and is a great help in this work, especially in external operations.

DR. H. C. MASLAND, Philadelphia: When there is pus in the sinus I have serious doubts as to the worth-while percentage of cures that are effected by treatment through the natural opening. The mechanics of the condition would call for drainage at the most dependent portion. The curved trocar is unsatisfactory, in that it can not be rotated without obscuring the vision, and if it is forced in it is liable to slip, to penetrate at the upper thinner part of the bony wall, or to lacerate the mucous membrane. A straight trocar can be rotated to cut, not force, its way through the thicker portion of the dividing wall at the floor of the antrum. A curved silver canula can be made in twenty-four hours to be inserted in this opening. It can have a collar at its inner end to be self-retaining. The curve fitted to each patient removes all questions of pressure distress; its outer end lies at the vestibule of the nose, obscured by the alæ of the nose. The patient with a suitable rubber bulb is thus permitted to give the antrum a thorough cleansing at home each day.

DR. R. P. SCHOLZ, St. Louis: Most of the speakers seem to agree that the conservative intranasal method, followed when necessary, by radical external operation, is the proper means of coping with sinus diseases. This being the middle path, seems to me to be the proper course. Ordinarily we should be as conservative as the case will permit, since after radical interference the nose is seldom so satisfactory an organ as when less radical means have been resorted to. Even when there are signs of the inflammation having spread beyond the limits of the sinus, as into the orbit, etc., it is often surprising what can be accomplished by the most conservative intranasal treatment, shrinkage of the nasal tissue so as to favor drainage, removal of polypi, lavage, etc. Of course, these patients need the closest observation on the part of the rhinologist, since many can only be coped with by radical external operative means. Not long ago two European writers described their methods of producing nasal suction. This principle (my statement being on the trial I have given it) is both an excellent diagnostic and therapeutic aid. I feel confident that it is one of our most valuable means of diagnosing ethmoidal suppuration. Not only is the pus sucked from the cavity as such but by the production of hyperemia (diminishing the size of the cavity) the pus is forced from the cell. One essayist claims polyp formation to be an indication for radical operation. To this I do not agree. Believing that in these cases often the polyp formation is the prolonging cause of suppuration. Frequently the simple removal of the polypi, thus establishing free drainage, will lead to entire restoration.

DR. C. M. ROBERTSON, Chicago: It seems to me that the first thing to do in treating cases of empyema of the sinuses is to determine whether the condition is acute or chronic; this is absolutely essential. The next thing is to determine the character of the inflammatory condition to be attacked. If it is of staphylococcus origin we can be more dilatory than if we have to deal with a more virulent infection. I operate very little on the frontal sinus, that is, radically. I think I am able to effect a cure in most of the cases intranasally by cutting away the anterior part of the middle turbinate and establishing free drainage. It is necessary, however, to have a skiagraph to determine the exact topography. If the sinus extends over the orbit or is divided by septa it is useless to try to treat it intranasally. With the anterior ethmoid cells intranasal treatment is more efficacious. I believe that it is necessary to conserve the turbinate tissue. It is a physiologic tissue and unless there is a great deal of disease we should try to save it. When polypi exist I have done the radical operation on the maxillary sinus and ethmoid cells and seen the polypi disappear. They shrink up when drainage is established, for they are nothing more than exuberant granulations. In the treatment of the posterior ethmoid cells and the sphenoid sinus I have not had such good results intranasally.

DR. E. A. CROCKETT, Boston: We have heard a great deal about complete removal of the middle turbinate and intranasal removal of the ethmoidal labyrinth, and most of the gentlemen would leave us with the impression that it is a simple operation and that the external operation is much more difficult. Now, that does not accord with my experience. I always advocate extranasal operations in preference. It is easier for the man with limited experience. In Boston we have had no deaths from the external operation. On the other hand, I know of two deaths at the Eye and Ear Infirmary and two at the Massachusetts General Hospital following the intranasal operation. These statistics may not conform to the experience of men from other parts of the country, but the fact is significant that these patients were in the hands of four different men.

DR. GEORGE M. CASE, Elmira, N. Y.: During the spring of 1904, I spent some time in the clinic of Professor Jansen, of Berlin. It was not uncommon in one day to witness three or four operations for radical cure of chronic sinusitis. The operations were brilliant indeed; in three-quarters of an hour he would clean out frontal, ethmoid, maxillary and sphenoid sinuses, using drainage from each. It seemed a rapid way to cure these patients. But by inquiry and observation in the hospital I found many of these patients relapsed and required a second operation. Again, although the suppuration was lessened, these patients were uncomfortable, suffering intensely from dryness in the nose and throat, and requiring almost constant attention to have any degree of comfort. Of course, the middle turbinate was removed in all patients I saw operated on. My observations, both in Berlin and Vienna, and since, have taught me to be conservative in the management of these cases. Of course, if patients can not spend the time necessary to carry on a long and tedious nasal treatment we may be forced to institute radical measures early in the case. I think it poor surgery to sacrifice the turbinate and destroy nasal and lining mucous membrane of the sinuses, when we can get drainage by less radical measures.

DR. C. F. WELTY, San Francisco: I wish to report the death of two patients in San Francisco from the so-called intranasal operation. They were not my cases but came to my knowledge.

DR. H. W. LOEB, St. Louis: A man can not be absolutely sure that he is in the frontal sinus. He may be in an ethmoid cell that is diseased and he may relieve the patient, but he doesn't know that he is in the frontal sinus. Dr. Coakley speaks of the impossibility of relieving sphenoid suppuration entirely by the nasal route. We have all seen patients operated on radically in which suppuration continued. Whether it is due to the impossibility of getting away all the diseased mucous membrane or not I am unable to say.

Dr. Crockett calls attention to the difficulty of the intranasal operation, but I think his inference is rather overdrawn in regard to the difference in the number of deaths in comparing the two operations. While there are thousands and thousands of operations done intranasally, there are comparatively few done extranasally, and not every one who has a death from the extranasal operation reports it. One trouble is that we do not look on the intranasal operation as a surgical procedure. Some rhinologists do it in the office. If we would take as much pains in operating intranasally as we do with the extranasal operation our results would be immeasurably better and there would be less danger of death. In the external operation we make the same preparation as if we were going to do an abdominal operation. The intranasal operation should be entitled to as much respect.

DR. D. B. KYLE, Philadelphia: No one method will succeed in every case. The conservative method will fail occasionally and so will a radical operation. It is merely a question of judgment, the individual case, and the experience of the operator. Knowing when to operate is the most important thing, and we should always question whether we would do that particular operation on our own sinuses. If you try the conservative method you will find that you will not have to do the radical operation very often.

Clinical Notes

THE TRANSPARENCY OF MATTER FOR X-RAYS NOT AFFECTED BY TRANSVERSE RADIATION FROM A SECOND TUBE

R. A. MILLIKAN, PH.D. AND E. J. MOORE, M.A.
CHICAGO

In a recent article[1] it was asserted that greater transparency and, as a result, better skiagraphs, can be obtained in *x*-ray work by having two sources of the rays at right angles to each other, radiating simultaneously on the body to be photographed. In order to test the truth of this assertion by the electroscope method the following experiments were undertaken:

Two *x*-ray bulbs, one which will be called the direct bulb D and the other the transverse bulb T, were arranged as indicated in the diagram, both being carefully enclosed in lead screens. Openings in the screens were made at a, b, c and d, through which the rays could pass and produce ionization in the three electroscopes, E_1 E_2 and E_3. These electroscopes were protected in such a way that they were unaffected by the radiation from the bulbs when the openings a, b, c and d were closed by lead shutters.

The two bulbs D and T were always run simultaneously during all observations. The electroscope at E_1 was used for observing, first, the intensity of the rays from D which pass through any body placed at A when the shutter c is closed and the shutter b open; second, the intensity of the rays from D which pass through the body at A when both b and c are open so that the body is being radiated on by both D and T; third, the intensity of the secondary rays which enter E, when b is closed and c open so that only transverse rays fall on the body at A. If the transverse rays from T increase the transparency of the body at A for the direct rays from D, the effect produced per second on E, when both b and c are open should be greater than the sum of the two effects produced per second on E_1 when b and c are opened successively.

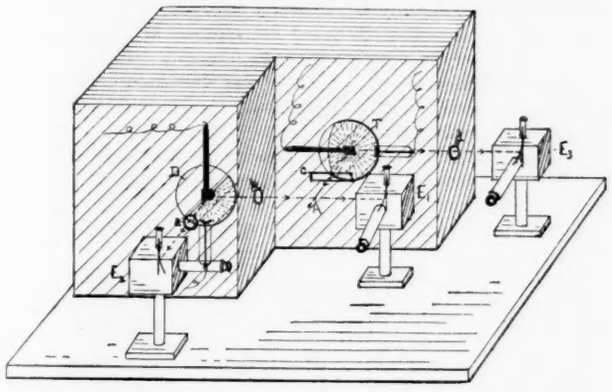
The electroscopes E_2 and E_3 were used merely for eliminating irregularities in the rates of radiation of the two bulbs D and T. E_2 was affected only by D, and therefore served as a measure of the rate of radiation of D, while E_3 was affected only by T, and hence served as a measure of the rate of radiation of T.

1. O'Donnell, P. S.: A New Method of Taking *X*-Ray Pictures, THE JOURNAL A. M. A., April 17, 1909, liii, 1246.

The observations were taken in the following manner: There was first placed at A a piece of pine wood of such thickness that rays from D had to pass through 12 inches of pine in order to reach E_1. All of the shutters, a, b, c and d, were opened and the rays from D and T were allowed to pass simultaneously through this wood. The effects on all the electroscopes were observed. The openings c and d were then closed and rays from D alone allowed to pass through A, and the effects on the electroscopes E_1 and E_2 again observed. Finally a and b were closed, c and d opened, and rays from T alone allowed to pass through A, and the effects in the electroscopes E_2 and E_3 observed.

Now if we subtract from the effect produced on E_1 when both D and T are simultaneously radiating on the body at A, the effect on E_1 when T alone is radiating on the body, and call this corrected value e_1, and if we call the effect on E_2, e_2, and the effects on E_1 and E_2 when D alone is radiating on the body e'_1 and e'_2, then it is evident that the ratio $e_1 : e_2$ must equal the ratio $e'_1 : e'_2$, provided there is no increase in the transparency due to transverse radiation from T. This we found to be the case within the limits of our observational error.

The energy for the bulbs was furnished by two 12-inch induction coils, the primaries being connected in series



with a Wehnelt interrupter on a 110-volt circuit. The current in the primary was varied from 10 to 25 amperes.

In the accompanying tables the numbers immediately under E_1, E_2, E_3 are the readings of the electroscopes before the bulbs were energized. The numbers just beneath these are the electroscope readings after the bulbs had been energized for a period of about six seconds. The third rows represent differences, and these are, of course, proportional to the amounts of ionizing energy entering the electroscopes under the conditions specified.

It will be seen that in the first three trials, in which the absorbing material was unchanged, the values of $e'_1 : e'_2$ agree with each other, as of course they should. It will also be seen that $e_1 : e_2$ agrees in every case with $e'_1 : e'_2$ within the limits of observational error, which were about 1 or 2 per cent.

In the fourth and fifth trials conditions as regards absorbing medium were changed, but $e_1 : e_2$ still agrees in each case with $e'_1 : e'_2$ to within the limits of observational error.

In each of the above experiments observations were made by two independent observers whose results always agreed with one another to within the limits of observational error.

These observations appear to demonstrate conclusively that under the conditions of our experiments the effects which can be obtained from D through A are altogether independent of the radiations of the transverse bulb T; i. e., the transparency of the body at A to radiations from D is altogether uninfluenced by transverse radiations from T.

TRIAL 1.—WOOD USED AS ABSORBING MEDIUM

E_1	E_2	E_3		
Both Bulbs (a, b and c open)				
0.5	1.5	2.6		
33.9	29.3	23.	$\frac{e_1}{e_2}$	$\frac{31.3}{27.8}=1.126$
34.4	27.8	20.4		
Direct Bulb (c and d closed)				
5.6	3.0			
39.6	33.4		$\frac{e'_1}{e'_2}$	$\frac{34.}{30.4}=1.118$
34.0	30.4			
Transverse Bulb (a and b closed)				
4.4	1.6			
7.6	22.6			
3.2	21.0		An apparent increase in transparency of 0.7 per cent.	

TRIAL 2.—WOOD USED AS ABSORBING MEDIUM

E_1	E_2	E_3		
Both Bulbs				
6.3	0.6	1.6		
39.6	26.6	21.8	$\frac{e_1}{e_2}$	$\frac{30.2}{27.2}=1.110$
33.3	27.2	20.2		
Direct				
6.6	1.5			
37.4	29.		$\frac{e'_1}{e'_2}$	$\frac{30.8}{27.5}=1.120$
30.8	27.5			
Transverse				
4.6	.6			
7.6	19.6			
3.0	19.0		An apparent decrease in transparency of about 1 per cent	

TRIAL 3.—WOOD USED AS ABSORBING MEDIUM

E_1	E_2	E_3		
Both Bulbs				
0.3	0.5	3.1		
37.3	29.6	25.5	$\frac{e_1}{e_2}$	$\frac{33.4}{30.1}=1.110$
37.0	30.1	22.4		
Direct				
2.4	1.6			
35.2	30.8		$\frac{e'_1}{e'_2}$	$\frac{32.8}{29.2}=1.123$
32.8	29.2			
Transverse				
.6	0.6			
4.2	21.5			
3.6	22.1		An apparent decrease in transparency of 1 per cent.	

TRIAL 4.—WATER USED AS ABSORBING MEDIUM

E_1	E_2	E_3		
Both Bulbs				
6.6	6.4	2.5		
24.2	33.4	23.6	$\frac{e_1}{e_2}$	$\frac{27.}{8.4}=3.21$
17.6	27.0	21.1		
Direct				
2.2	0.8			
11.	27.4		$\frac{e'_1}{e'_2}$	$\frac{28.2}{8.8}=3.20$
8.8	28.2			
Transverse				
5.4	2.8			
14.7	24.2			
9.3	21.4		An apparent decrease in transparency of 0.33 per cent.	

TRIAL 5.—WATER USED AS ABSORBING MEDIUM

E_1	E_2	E_3		
Both Bulbs				
3.6	1.6	3.2		
38.5	27.3	23.4	$\frac{e_1}{e_2}$	$\frac{26.5}{25.5}=1.039$
34.9	25.7	20.2		
Direct				
5.4	7.7			
32.6	33.6		$\frac{e'_1}{e'_2}$	$\frac{27.2}{25.9}=1.050$
27.2	25.9			
Transverse				
.9	.2			
9.5	20.9			
8.6	20.7		An apparent decrease in transparency of 1 per cent.	

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AN OVARIAN ABSCESS CONTAINING A LUMBRICOID WORM WITHIN THE CAVITY

BACILLUS COLI COMMUNIS INFECTION *

HENRY D. FRY, M.D., Sc.D.
WASHINGTON, D. C.

Patient.—M. J., colored, primipara, aged 23, was taken sick suddenly, Jan. 21, 1909, with pain in the lower abomen, followed by chills, restlessness, and vomiting. No information of importance was elicited from her family history.

History.—For some time before her present illness began, her appetite had been poor; she had suffered pain in her lower abdomen, and nausea after eating; ner bowels usually moved twice daily.

Examination.—Jan. 23, 1909, she was admitted to Garfield Memorial Hospital. Her tongue was coated with a grayish white fur; facial expression was drawn; she was in dorsal decubitus position with knees flexed. Pulse was 132; temperature, 103; leucocyte count, 20,560. The abdominal muscles were rigid, especially the left rectus; there was tenderness on pressure over both ovarian regions; on the left side a mass was outlined as big as a hen's egg. Vaginal examination revealed double salpingitis and a large mass on the left side. The afternoon of the day of admission she vomited a lumbricoid worm about 10 centimeters long. Microscopic examination of the feces showed numerous ova of the *Ascaris lumbricoides.*

Operation.—She was kept under observation until the acute symptoms had subsided. Temperature fluctuated between 98 and 102.5 F., and remained normal after February 5. Leucocytosis was 14,750. February 9 operation was performed at my clinic, assisted by the house staff. The right appendage was inflamed and adherent. The left ovary and tube were adherent to the cornua of the uterus; the ovary was enlarged to the size of a hen's egg, the surface was smooth, and there were no intestinal adhesions. While enucleating the mass the ovarian wall of the abscess sac ruptured. About 30 c.c. of pus escaped into the abdominal cavity, and projecting from the abscess through the tear in the wall was a small lumbricoid worm about 6 or 7 centimeters long; it was dead and flattened. Both tubes and ovaries were removed. The patient made an uneventful recovery.

Pathologist's Report (by J. B. Nichols).—Ovary enlarged. Dimensions: 6 cm. long, 4 cm. thick; yellowish-white color. Section shows an abscess cavity throughout its entire length. This is irregular in shape and its wall is not smooth but ragged. The wall is pearly white in general with areas of light yellow throughout. Cavity contains pus and a single worm 6.5 cm. long, identified as *Ascaris lumbricoides* by Dr. B. H. Ransom of the U. S. Department of Agriculture. The outer surface of the ovary is smooth and the abscess wall is from 3 to 5 mm. thick, except at one point, where it is only about 1 mm. The external surface at this point is perfectly smooth.

Microscopic Examination.—Extensive aggregation of round cells, mingled, especially in places, with polynuclear leucocytes. These cellular areas broken up by strands of dense fibrous tissue. Round cell aggregations apparently inflammatory areas.

Bacteriologic Examination.—B. coli communis in pure culture from pus.

The female lumbricoid deposits eggs in the human intestine, whence they are expelled with fecal matter. Embryonic development takes place in water 5 or 6 months after expulsion. During summer heat the development is more rapid, but in autumn and winter the egg can remain five, six or seven months without presenting the least trace of segmentation. According to Blanchard,[1] the egg passed in the feces produces an embryo in time varying from several weeks to one or two years. Carried into the human intestine by drinking water, the embryo gains liberty from the egg envelop and grows into adult state. The development is rapid and the female worm extrudes ova at the end of one month. The life of the worm does not exceed one year.

Lumbricoid worms are expelled in feces; are vomited; are passed out through the mouth or nares; through the Eustachian tube and external ear; through the nasal fossæ and lachrymal ducts to the inner angle of the eye.

Lumbricoid worms travel extensively through natural and artificial passages. They are passed into the trachea and cause death by suffocation and by gangrene of the lung. They have been found in the pancreatic duct; in the common bile duct; in the hepatic and cystic ducts, and in the gall bladder. Hepatic abscesses have been caused by lumbricoid worms. They have perforated the intestines and escaped from the peritoneal cavity into the pleura; through the ventral wall; through umbilical and inguinal tumors and into lumbar and psoas abscesses. Hippocrates reported a worm expelled from an appendiceal abscess. Numerous cases of a similar kind have been reported since.

The genitourinary tract has not escaped invasion by the *Ascaris lumbricoides.* Blanchard mentions the following cases:

Alghisi: Infant, 7 years of age, passed through the urethra in one year 60 worms—ascarides and oxyures.

Chapotin: A negro, 20 years old, passed by the urethra a number of ascarides from 3 to 4 cm. long.

Cases by Kingdom, Krakowitzer and Du Jardin of lumbricoid worms passed with the urine at intervals from eight or ten days to several months.

A fistulous tract leading from the bowels to the bladder was demonstrated by autopsy in the cases of Pereboom, Kingdom and Krakowitzer.

Anciaux reported a woman who passed lumbricoides from the vagina by a fistulous tract to the bowels.

Numerous cases have been reported of round worms having been found within the vagina. Bedel reported a case of hydrometritis complicated by the presence of a lumbricoid worm within the uterus.

The *Ascaris lumbricoides* gains access to the genitourinary passages of the male and female by passing from the intestines into the peritoneal cavity; by fistulous tracts communicating with the bowel; and by passing externally from the anus into the vagina or urethra.

The only case I can find recorded of the presence of these worms within the ovary is that of Dufour:[2]

A girl, 17 years old, was operated on Aug. 28, 1904, at the Hôpital St. Pierre for a multilocular cyst of the right ovary. The intestines were adherent to the cyst, and in detaching them a tear in the cyst wall gave escape to a viscid, gelatinous substance, and projecting from the opening was found a lumbricoid worm. It was removed; a second worm was found, and then a third. They were alive. An examination of the portion of the intestinal wall that had been adherent to the sac revealed two small perforations.

In my case it is evident from the condition found at the operation and from the examination of the pathologic specimen that the lumbricoid did not pass from the intestine to the ovary. The only satisfactory explanation is that it migrated through the vagina, uterus, and tube to the ovary, where it gained access to the interior through a ruptured Graafian follicle.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Traité de Zöologie médicale, Paris, 1889.

2. Dufour, E.: Cas de kyste de l'ovaire renfermant des lombrics vivants; double perforation intestinale, Gaz. de gynéc., xx, 97.

Donation for Cancer Research.—The British Imperial Cancer Research Fund has received from the Duke of Bedford, the vice-president, a donation of $5,000.—*Science.*

PERFORATION OF APPENDIX BY ROUNDWORM *

JOHN EGERTON CANNADAY, M.D.
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While there have been several reports of cases of perforation of the vermiform appendix by roundworm, these accidents are yet quite rare. The pathologic development of these cases, of course, varies, but as a rule it is believed—and with good reason—that the worm, finding itself shut in so narrow and blind a canal, bores through in its endeavor to escape. Once in the peritoneal cavity, the worm offers to the peritoneum a twofold insult, mechanical and bacteriologic. Outside of its normal habitat the worm soon dies and is walled off by adhesions. If all goes well, a well-circumscribed abscess surrounds the worm.

In the case I have to report the worm failed to get entirely through his own tunnel and probably died as a result of the constriction which took place around his neck, so to speak. In the Museum of the Royal College of Physicians and Surgeons, Lincoln's Inn Fields, London, is shown a roundworm which was strangulated in similar fashion on its ill-advised attempt to pass through the ring of a hook such as is commonly used in fastening women's dresses.

The roundworm is at times given to wandering and instances are on record in which it has been found in the stomach, nose, glottis, Eustachian tube, biliary and pancreatic ducts. In rare instances it may perforate the alimentary canal and escape into the peritoneal cavity and escape from thence by suppurative perforation into the bladder or through the abdominal wall. At times large masses of worms accumulate in the intestine, causing obstruction and requiring surgical aid.

Since the roundworm is cosmopolitan and the majority of people living in warm climates are infected, it is rather remarkable that more of these cases do not occur.

Patient.—A boy, L. M., of West Charleston, aged 12, of slight build, referred by Drs. W. A. McMillan and A. T. Mairs, was suffering from a typical attack of acute appendicitis of three days' duration. There was a well-defined mass in the right lower abdomen. There was a rise of pulse and temperature, marked leucocytosis, abdominal rigidity, etc. The history of the case presented nothing of special interest.

Operation.—An incision of medium length was made over McBurney's point, and, since the abscess was postcecal in location, it was carefully walled off with gauze packs and opened. After opening this abscess and sponging away about three ounces of pus, a whitish slough-like mass was seen to be projecting from the side of an inflamed appendix near its base. On opening the appendix it was found that a roundworm was tightly wedged in a tiny perforation, the appendical tissues having a sort of strangle hold about its neck. While the portion of the worm which had lain in the abscess was partly broken down, the intra-appendiceal part was well preserved and lifelike in appearance. This worm had undoubtedly perforated the appendix, become locked in the wall, and died *in situ*. The intraperitoneal part of the worm, acting as a foreign body, plus the infection, had resulted in an abscess.

The cavity was drained in the usual manner and the boy made an uneventful recovery.

Diet.—I. J. Wolf, in the *Journal of the Missouri State Medical Association*, states that after all it is not what we eat but what we digest and assimilate that counts. A superabundance of food, which causes the intestines to be filled with decomposed and putrefying matter, and which leads to malassimilation, is certainly a mistake and not wise and economic nutrition.

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* Reported before the Kanawha County Medical Society.

Therapeutics

ANEMIA

Before this condition can be properly treated, it should be determined whether it is a so-called blood disease or a condition caused by a disease of some other part.

Anemia is well divided into primary and secondary; the former denoting a disturbance of the blood corpuscles caused by disease or malcondition of the blood itself or of the blood-making organs, the latter being a symptomatic anemia caused by organic disease, loss of nutrition from gastrointestinal disturbances, suppuration, profuse secretion or excretion from any organ, especially from albuminuria, and from toxemias due to poisons or toxins that have gained access to or have been abnormally retained in the blood. Consequently, a diagnosis of the condition presupposes a careful analysis of all the organs and functions of the body, and not only a counting of the red blood corpuscles, but a study of the hemoglobin content and the shape and form of the corpuscles. In the future, a careful study of the blood plasma will also be found necessary to understand many of the disturbances of the blood. Excess of salts or lack of them, and excess or lack of some particular salt, will doubtless be found to play an important part in the causation of anemias.

Before deciding that a simple anemia is primary, all secondary causes must be eliminated, but there can be a primary anemia that is mild in form, which, if the cause persists, will become a pernicious anemia with the typical blood picture of that disease. In other words, a simple anemia may be caused by a mild type of the condition that is the cause of pernicious anemia, i. e., pernicious anemia may be mild in type, if one is allowed the paradox.

It having been decided that an anemia is secondary to some organic lesion or debilitating condition, it is useless to aim the treatment strongly at the blood condition to the neglect of the condition that has caused the anemia. In other words, the disease present must be correctly treated, and, even if organic, much help may generally be given. If the drain on the system can not be medically prevented, it is generally useless to wait for operative interference until medicinal or other treatment can improve the condition of the patient. Therefore, surgery should be brought to the aid, if surgery is indicated, at the earliest possible moment.

Everything possible having been done to remove, or ameliorate, or stay the cause of the secondary anemia, the number of red blood corpuscles may be increased and their health may be improved by treatment.

Perhaps the most important of all treatments of anemia is fresh air and sunlight, in the best possible hygienic and climatic surroundings. Some anemic patients will do best in the country, others best at the seashore, others best in the mountains.

The next most important element in the blood improvement is the diet, and a diet that contains sufficient meat, combined with such vegetable foods as contain iron, and arranged so as to be most easily digested and assimilated by the individual patient. In other words, the diet must be individualized.

The next consideration in the treatment of secondary anemia is that of drugs, and whether or not drugs can stimulate the organs concerned in the production of healthy blood corpuscles. The principal origin of the red blood corpuscles in the adult is the red marrow of

bone, while the spleen may possibly produce red corpuscles before birth, and some physiologists believe it is possible, under certain anemic conditions, for the spleen again to assume such work. The spleen, however, may be considered as a storehouse for red corpuscles and the place for their destruction, although after serious hemorrhage the spleen doubtless gives up large numbers of healthy corpuscles to the needs of the blood. Also, under conditions of hemorrhage, nucleated red corpuscles will be found in the blood stream, having been prematurely given to the blood by the red bone marrow in the blood's need. This same need of the blood for erythrocytes seems to be one of the reasons for finding nucleated reds in pernicious anemia. The hemolymph nodes, glands near the vertebral column, partake more of the action of splenic tissue than of blood-forming tissue. That is, in serious anemic conditions they may become very active, but perhaps do not actually produce red corpuscles as does the bone marrow. The destruction of red corpuscles is evidenced by the splenic vein containing more hemoglobin than is found in any other part of the circulation. This going directly to the liver is quickly changed by the latter into material for bile pigments. Ninety-five per cent. of the contents of the red corpuscles is hemoglobin, a very unstable compound, and about 14 per cent. of human blood consists of hemoglobin, equal to about 750 grams in the sturdy adult of 165 pounds. Ninety-six per cent. of this hemoglobin is globulin and 4 per cent. is hematin, which contains iron. As this hematin is concerned in the oxygen and carbonic acid exchange in the lungs, if its iron content is insufficient or if the number of red corpuscles is much diminished, breathlessness and dyspnea on the least exertion occur. The amount of hemoglobin in each corpuscle is decreased in chlorosis and increased in pernicious anemia. While the number of the red corpuscles is decreased in the secondary anemias, and while the number is enormously decreased in pernicious anemias, the hemoglobin content of each corpuscle may be decreased or increased. It is, therefore, essential to determine the number of red corpuscles and the hemoglobin content before the best medicinal treatment may be inaugurated.

With such an investigation, an apparent anemia may be proved not to be such, and sometimes even the reverse. Many neurasthenic, pale patients really have a plus red blood count in the peripheral blood. Certainly iron is not needed by them. It will also be found of value to take the blood pressure of anemic patients, as many patients with abnormally low pressure will have a general improvement of all metabolism if circulatory stimulants are given, possibly cardiac tonics, and possibly vasoconstrictors. Certainly patients with impaired, sluggish circulation, possibly a tendency to pendent edemas, cold hands and feet, perhaps dilated peripheral vessels, and sluggish circulation in the stomach and intestines will not recover with iron, arsenic, or other so-called blood-making drugs. Such patients certainly should not be urged to take physical exercise, when by their blood condition they are absolutely unfitted for it. The harm from the exhaustion caused is far in excess of any good that will be done by the exercise. Massage and sometimes gentle hydrotherapeutic measures are of value as tending to tone up the skin and muscle circulation and, therefore, improve the general circulation.

It having been determined that the patient has a loss of hemoglobin in excess of the loss of red corpuscles, iron is certainly indicated, but the amount needed is theoretically very small, when it is remembered that from 0.005 to 0.006 gram daily is all that occurs in an ordinary diet, and that from 0.003 to 0.005 gram of iron a day will preserve the normal iron equilibrium in normal individuals. The feeding of much iron will not increase the iron output in the urine, which is always very small, but it will increase the output in the feces. The food iron, or iron administered as such, is absorbed in small amount from the duodenum, circulates in the blood, and is mostly excreted again by the epithelial cells of the intestine in the lower part of the canal. The iron content of the liver has been found increased by the administration of iron, and iron has been found in the epithelial cells of the duodenum. The epithelial cells of the lower intestine and cecum will give the reaction for iron some time after it has been administered. The administration of iron also does not much increase the amount of iron that is in the bile. Almost all the iron administered, then, passes off through the intestines without having ever been absorbed, and the excess of even the iron absorbed is quickly excreted by the epithelium of the lower intestines; therefore, the body really uses daily but a minute amount of iron. Consequently, if the iron in the hematin of the red corpuscles is all that is needed to improve an anemic condition due to diminished hemoglobin, the need will be completely satisfied and more than satisfied by one grain of iron a day. Also, it is a fact beyond all reasonable doubt that an inorganic iron is just as efficient in raising the hematin content of the hemoglobin and of stimulating the hematopoietic organs and improving the anemic condition as is any organic iron, and there is positively, absolutely, no excuse whatsoever for ordering a patient to buy a dollar bottle of some proprietary iron product, no matter how elegant that product may be. A frequent excuse made for ordering such iron preparations is that other iron does not agree with the patient's stomach, or causes indigestion, or causes headache, constipation, and other unpleasant symptoms. The only reason that such symptoms ever occur from an inorganic iron is because too much is administered. One drop of the tincture of the chlorid of iron in a little clean lemonade or orangeade is sufficient to satisfy the blood need and can never cause any harm. The sugar of iron tablet (*Eisenzucher*), i. e., the saccharated oxid of iron, in a three-grain tablet, given once a day, can cause nothing but good to the patient. The Blaud pill, or the dry carbonate of iron capsule are other elegant preparations of iron, and if three a day cause headache one a day is sufficient. The reduced iron capsule is the only other form of iron that is positively needed in the Pharmacopeia. If iron is badly needed in serious anemia, there is nothing that is such a stimulant to digestion and to the organs concerned in the production or nutrition of red corpuscles as the tincture of the chlorid of iron, and five-drop doses, in a sour menstruum as suggested may be given, in serious conditions of infection, three or four times in twenty-four hours, with marked benefit to the patient. In fact, in serious illnesses, and especially in septic conditions when the diet is perhaps iron-free, one or two doses a day of a simple iron will often protect the blood corpuscles from hemoglobin loss.

To return to chlorosis: The cause has not been definitely determined. For some reason or other these patients do not metabolize to blood iron the food iron that they ingest. This may be a gastrointestinal chemical mistake, or it may be some secretory disturbance. In this kind of anemia large doses of iron have sometimes been found of more benefit than small doses, possibly because they satisfy the chemical mistake in the intes-

tines. Frequently the same beneficial results have been obtained by the administration of small doses of salines, as Rochelle salt or other simple laxative. This must again be improvement caused by correcting chemical changes in the intestines that are pernicious, or possibly a freer action of the bowels may prevent autoinfection from causing disturbance of the blood.

From the standpoint of disturbance of internal secretions, if chlorotic girls also have the condition of amenorrhea, there is no drug that will be of more benefit than thyroid if administered in small doses. Menstruation develops and chlorosis disappears in a large proportion of cases. It should be emphasized that the dose of thyroid in chlorosis should be small, three grains of the official preparation a day, except, perhaps, for the first week of treatment.

It is perhaps true in the conditions just discussed that manganese, in the form of the dioxid, will be of as much value as iron, but when small doses of iron are sufficient, why consider or ponder the value of manganese? Why ever use a drug of secondary importance when the drug of primary importance suffices?

Now as to the value of arsenic in this condition of chlorosis. Arsenic may be a slight stimulant to the bone marrow, and sometimes is. Fatty degeneration of the bone marrow has been caused by arsenic, as well as fatty degeneration of other organs. It is a foreign element in the system, and theoretically is a poison. It stimulates many secretions, principally that of the thyroid gland, and the administration of arsenic in exophthalmic goiter cases has repeatedly made the symptoms worse. Its slight irritant action to the stomach certainly does increase the appetite, and we are all aware of its bad digestive action when such stimulation is excessive. It may also have some antiseptic action in the bowels which may be of value in chlorosis. In chorea salol and salicylic acid, both bowel antiseptics, will often do as much good as arsenic, and it is quite possible that the choreic disturbances proceed from some kind of intestinal infection. When arsenic is in the blood in sufficient amounts to produce symptoms of its activity, such as edema under the eyes in the morning, besides gastrointestinal disturbances, it is also in sufficient amount to irritate the kidneys, and if the urine be carefully tested it will be found often to contain albumin. During such intense action the arsenic is also likely to cause a sudden loss of red corpuscles, which is the opposite of the action from it that is desired. While small doses of arsenic may be of value in chlorosis, its medicinal value is not comparable to that of iron or even thyroid.

In secondary anemias it is only necessary medicinally from the blood standpoint alone to administer daily a small dose of inorganic iron. If the cause of the anemia can be stopped, the blood will improve.

If primary anemia does not from its blood picture present the condition of pernicious anemia, and yet no secondary cause can be found, we must believe that an incipient stage of pernicious anemia may be present, and should treat the condition as actively as though the blood picture of that disease was in evidence. In these cases and in pernicious anemia the content of the red blood corpuscles is perfect or even plus, and iron does but little good. While the red marrow of bone may be actually diseased, and an insufficient number of red corpuscles be produced, or while there may be enormous destruction of the red blood corpuscles in the spleen or elsewhere, there is probably always an intestinal cause, and there may be serious liver disturbance. The frequent record of improvement in anemia from large doses of arsenic is constantly offset by the reports of cases in whom the apparent first improvement was followed by sudden, great and serious loss in the number of red corpuscles. This is especially true if, during the arsenic treatment of pernicious anemia, any infection attacks the patient. In other words, while arsenic is perhaps the most frequently successful treatment of pernicious anemia, if the patient is helped at all, it may also be a frequent cause of increased blood defect. Certainly when large doses are given, the danger of general fatty degeneration, and the danger of kidney inflammation, and the danger of localized or even general neuritis, is great. Like the bad effects of other treatments, serious injuries from arsenic have been rarely reported, and perhaps many times have not even been recognized.

It has been stated that arsenic has many times been given hypodermically with better success than when given by the mouth, and doses thus administered have been gradually increased to the point of poisonous symptoms. Recently Dr. William L. Harris, of Providence, R. I., has advocated the hypodermic injection of iron, arsenic and mercury, in small doses, as a treatment for inoperable cancer, and he states he has had good results from such treatment. He has had prepared for him by a pharmacist in Providence little glass aseptic ampoules containing the trioxid of arsenic, 1/40 of a grain, and the citrate of iron, ⅓ of a grain, in 15 minims of distilled water. If one decides to use arsenic hypodermically in anemia, certainly this combination would be a good one to use.

Sometimes most successful stimulation of the red blood-forming organs is caused by the administration of preparations of red bone marrow. It is of frequent occurrence in any kind of anemia to find the red blood corpuscles increased in number under the administration of red bone marrow.

While it can not be decided from the blood picture that a patient is not in the incipient stage of pernicious anemia, other symptoms may bear out the possibility of such a condition. It can also never be stated that a patient suffering from well-developed pernicious anemia can not improve and be practically well for a long time. Patients apparently in the last stages of exhaustion from the disease have been known to recover and to remain well for a long time. Improvements, however, in pernicious anemia are likely not to be permanent. On the other hand, some patients without the typical blood picture of pernicious anemia, and with no other evident cause of the anemia than a blood condition, go continuously and persistently down hill in spite of all treatment.

Successful Operative Treatment of Gastric Crises.—O. Foerster of Breslau calls attention to the fact that the gastric crises of tabes are always ushered in by the pain, and that this may persist alone for some time before vomiting and hypersecretion occur. The trouble is evidently the result of morbid irritation of the sensory nerves of the stomach, probably the seventh to the ninth spinal roots. He reports a case of gastric crises in a syphilitic man of 47. During the last two of the six years since they began they have been practically continuous, the vomiting keeping up for three weeks at a time, with intervals of only five or six days when, under morphin, he was able to retain food. No treatment gave relief until Foerster advised resection of the nerve roots, which he regarded as the source of the disturbances, and Küttner resected the seventh to the tenth dorsal roots. The day after the operation the patient called for food and retained it, and there has been no vomiting and no more pain in the gastric region during the two months since the operation. The case is reported in the *Allg. med. Central-Zeitung*, April 3, 1909.

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[*For other information see second page following reading matter*]

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THE RELATION OF THE SPIROCHÆTA PALLIDA TO GENERAL PARALYSIS

The *Spirochæta pallida,* concerning the etiologic rôle of which in syphilis there now is no question, has been demonstrated in chancres, syphilids, the tissues in cases of congenital syphilis, gummas, and in a few cases of syphilitic aortitis, but in so-called parasyphilitic disease, *e. g.,* general paralysis, it as yet has not been seen. By means of the Wassermann reaction, however, chemical changes peculiar to syphilis have been demonstrated in the blood serum of individuals suffering from general paralysis and locomotor ataxia and on this account the question arises as to the exact relation between the spirochete and parasyphilitic diseases. For the purpose of illuminating certain phases of this problem Browning and McKenzie[1] call attention to the points of resemblance between syphilis and trypanosomiasis. The principal points are: In trypanosomiasis the infecting agent is a protozoon, and this, they say, probably also is the case in syphilis; in experimental trypanosomiasis there occurs a change in the blood serum resembling that in syphilis and parasyphilitic diseases and manifesting itself by giving the Wassermann reaction; there is considerable similarity in regard to the early involvement of the lymph glands; the early febrile and constitutional disturbances with eruptions, the periods of latency, and the later involvement of the central nervous system, roughly correspond fairly well in the two diseases; and then the cellular changes are the same in both—lymphocytes and plasma cells playing a prominent part in the reaction, the perivascular proliferation of general paralysis being similar to that in sleeping sickness, which is the final stage of human trypanosome infection. In sleeping sickness, however, trypanosomes occur in the cerebrospinal fluid; and the failure to demonstrate the spirochete of syphilis in general paralysis is an important missing link in the chain of comparison. It is also noteworthy that, while both diseases may be transmitted to animals, yet the mode of natural infection in the case of syphilis is far different from that in the case of trypanosome infection, which is conveyed by a biting fly *(Glossina palpalis).*

In spite of the failure so far to find *Spirochæta pallida* in the cerebrospinal fluid in general paralysis there are a number of points that may be considered to speak in favor of the contention that it is still active in this disease. Thus general paralytics appear to be immune to syphilis reinfection. It will be recalled that Krafft-Ebing failed to inoculate with material from a typical hard chancre nine general paralytics who had no history of syphilis. Naturally this might be interpreted as the result of immunity to syphilis, but Neisser has shown experimentally that in monkeys reinfection is impossible if the spirochete is still present. The occurrence of a latent period between active syphilis and so-called parasyphilitic diseases has also been explained as the result of an acquired immunity, but it is also explainable in other ways. The early and effective use of drugs may cause a complete disappearance of the symptoms of syphilis, but apparently without killing the organisms completely, because the disease may reappear after some time; and a mother who gives birth to syphilitic children without herself showing the symptoms undoubtedly harbors the virus. Hence it is not unlikely that the germ of syphilis may remain latent in the body for long periods and yet be capable of giving rise to disturbances on the occurrence of favorable changes concerning the exact nature of which we know little or nothing.

It has been claimed that failure to respond to antisyphilitic treatment speaks for the view that general paralysis is not a true syphilitic disease. Here, again, the possibility that the virus may have become serum-resistant, or drug-resistant, a condition which is now well known in experimental trypanosomiasis, should not be lost sight of. Assuming that the spirochete may occur in the cerebrospinal fluid in general paralysis, Browning and McKenzie suggest that antisyphilitic treatment may not be effective in this disease on account of impermeability of the spinal membranes, which are held to be more or less impermeable not only to bacterial antibodies, but also to certain drugs, as, for instance, potassium iodid.

In view of these considerations these authors feel that the independence of syphilitic and parasyphilitic disease has not been established and that, especially in general paralysis, search for the organism of syphilis should be continued. They also suggest that, in view of the likelihood that the disease is the result of an active process, intraspinal injections of remedial agents might be tried.

1. Review of Neurology and Psychiatry, June, 1909.

A PHYSICIAN'S DAUGHTER

With the passing of Sarah Orne Jewett some time ago there went a sterling American writer who portrayed affectionately and to the life "the dry, shrewd, quick-witted New England type." She was born "down East" in Maine, the daughter of a country doctor. Making the rounds with her father amid the New England folk, she learned to know, to respect and to love them, and no one has done greater honor than she to the homespun vir-

tues, the sharp humor and the real kindliness beneath the sometimes bleak exterior of the country folk of Maine and of New England generally. She was a true artist, seeking not to produce effects, but to reproduce character and life as she saw it. What she has written will live, then, doubtless for generations after much of the present-day writing that seeks merely after effect and does not go below the surface of things has been forgotten.

We who are physicians can scarcely help but feel that she owed much to her intimate relations with her father that enabled her to get so near the heart of truth in life. Indeed, she as much as says so herself. "You doctors ought to be our historians," says a character in her novel, "A Country Doctor," "for you alone see the old country folk familiarly and can talk to them without restraint." Doubtless there is more than one reminiscent, if not biographic touch in this appreciative sketch of the country physician who joined knowledge of personality and of human nature to his skill in diseases, which last grew to be "a wonderful second-sight." Such, for instance, is this: "The doctor told Nan many curious things as they drove about together: certain traits of certain families, and how the Dyers were of strong constitution, and lived to a great age in spite of severe illnesses and accidents and all manner of unfavorable conditions; while the Dunnells, who looked a great deal stronger, were sensitive, and deficient in vitality, so that an apparently slight attack of disease quickly proved fatal. And so Nan knew that one thing to be considered was the family, and another the individual variation, and she began to recognize the people who might be treated fearlessly, because they were safe to form a league with against any ailment, being responsive to medicines, and straightforward in their departure from or return to a state of health; others being treacherous and hard to control, full of surprises, and baffling a doctor with their feints and follies of symptoms; while all the time Death himself was making ready for a last, fatal siege; these all being representatives of types which might be found elsewhere."

The great body of country physicians in America may well be proud of Miss Jewett and her work because it shows their attitude toward humanity in so sympathetic a light.

INTERNATIONAL CONFERENCE ON VITAL STATISTICS

The successful completion of the labors of the International Commission for the Revision of the Classification of Diseases and Causes of Death is highly gratifying to all those interested in uniform, complete and accurate vital statistics. It also marks a degree of uniformity and cooperation hitherto unattainable in this work. For many years, attempts were made in the old International Statistical Congress to formulate a classification of diseases that could be universally accepted. These efforts, however, were not successful, and until comparatively recently each nation and, in the United States, practically every city and state, followed its own methods in compiling mortality statistics. Consequently one could never be certain on examining a statistical table whether the figures given were in any way comparable to those found in other reports.

The first definite attempt at a solution of the problem was made at the session of the International Statistical Institute at Chicago in 1893, when Dr. Jacques Bertillon submitted a system that has since become recognized as the International Classification of Causes of Death. In 1898 at Ottawa, the American Public Health Association formally adopted this classification and recommended its use in all national, state, provincial and city reports in the United States, Canada and Mexico. The committee of that association at that time recommended a decennial revision in order that the classification might be kept up to date. This recommendation was approved by the International Statistical Institute, and in 1900 the French Government called the first meeting of the international commission at Paris. Unfortunately for the progress of vital statistics in the United States, however, medical men and registration officials were not represented, and as a result the revision was not in all ways satisfactory. The delegates to the second decennial revision, however, were admirably chosen, and it is anticipated that their work will help to solve the problems of vital statistic registration in this country.

Particularly gratifying is the recognition given the medical profession and the American Medical Association in the selection of three representative physicians, one of them the chairman of the Association Committee on Nomenclature and Classification of Diseases, to represent the United States on the International Commission. The work of Dr. Foster and his associates is of the utmost importance and is deserving of the recognition which has been accorded it.

TREATMENT OF PELLAGRA

Much interest has been aroused during the last two or three years in the subject of pellagra. A study of the disease in the United States has thus far shown that it is widely distributed throughout the south, and is present in some localities in the north and middle west. The question of prognosis and treatment is naturally, therefore, one of much interest. Dr. C. H. Lavinder,[1] of the U. S. Public Health and Marine-Hospital Service, who for more than a year has been devoting his time to a study of the disease, in a recent article, has given a brief review of the subject.

He states that the prognosis must invariably be considered as grave, and that complete recovery can seldom be assured. Reliable statistics on the subject in the United States are practically limited to asylum cases,

1. Public Health Reports, Sept. 10, 1909. Copies of this article can be obtained by making request to the Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C.

and give a mortality of 67 per cent. It must be borne in mind, however, that asylum cases are undoubtedly the more advanced and hopeless ones, and for that reason will give a mortality much above the average. Lombroso gives statistics of hospital cases in Italy in 1883 and 1884, showing a mortality of 13 per cent., whereas Wollenberg gives Italian statistics for 1905 showing a mortality of a little over 4 per cent. The disease resembles tuberculosis, both in that it is an insidious and chronic condition, and that much depends on early diagnosis and treatment, prognosis in early cases being far better than in advanced ones. The importance of this is apparent when it is considered that the disease is an intoxication, and that it is probably associated with diseased corn products used as food.

Predisposition is believed to be an important factor in this disease. Lowered physical resistance, worry, insufficient food, bad housing and alcoholism are supposed to render an individual more susceptible. In Italy, laws have been passed regulating the use and storing of corn and its derivatives, institutions have been established for the care and treatment of pellagrins, improved agricultural methods are encouraged, and assistance is given to the sick in many ways by the government.

In the treatment of patients, Lombroso recommends a liberal diet; in some cases he uses baths and cold douches, believing them to be of benefit in certain cases with nerve and skin manifestations; he has found arsenic a valuable remedy, and sodium chlorid of service.

Good results have been reported from the use of arsenical preparations, and transfusion of blood from cured individuals to the sick has been tried with apparent success.

THE UNSATISFACTORY CANADIAN PATENT MEDICINE ACT

On another page[1] we give the essential features of the new Canadian "Act Respecting Proprietary and Patent Medicines." A careful perusal of this act will leave the impression that the law has been framed with a view rather to appeasing public clamor than to furnishing public protection. The law defines "proprietary or patent medicine," in the sense in which the terms are used in the statute, as any artificial remedy or prescription whose name, composition or definition is not to be found in the various pharmacopeias or approved formularies or—and herein lies "joker" number one—which has not the "true formula or list of medicinal ingredients, which must not contain cocain," printed on the label or wrapper. This would seem to mean that nostrums of the most dangerous and objectionable type would not come under the jurisdiction of the new act, providing they contained no cocain, and their ingredients were published on the label. That is to say, such nostrums as Peruna and Orangeine, whose manufacturers claim to publish the "formulas," would not be "patent medicines" within the meaning of the new Canadian law! Nor is this the only weakness in the new statute. A poison schedule is given and any "patent medicine" containing one of the scheduled drugs must have the name of such drug—nothing is said of the quantity—"conspicuously printed" on the label and wrapper. Provided, however—"joker" number two—that if the manufacturer tells the authorities the quantity of any such scheduled drug his nostrum contains he may be permitted to sell his "patent medicine" without printing the name of this drug on the label "if it appears to the minister that the proportion of the drug used is not dangerous to health"! The potentiality for harm of this provision is limited only by the judgment of the man to whom is entrusted the enforcement of the act. It would seem that the new law will actually protect the Canadian public against cocain-containing nostrums; but from the innumerable other vicious forms of self-administered medicaments the act seems to offer tempting opportunities for the unscrupulous manufacturer to profit at the expense of the people. It may be that if the law is broadly interpreted and wisely administered our northern neighbors may obtain that measure of protection which they evidently desired; should it be enforced, however, with that slavish adherence to the letter, rather than to the spirit, that too often characterizes the execution of laws, we fear that Canadians will soon awaken to the fact that their representatives have handed them a legislative "gold-brick."

1. Pharmacology Department, this issue.

Medical News

CALIFORNIA

Will Teach Tropical Medicine.—The faculty of Oakland College of Medicine has instituted a chair of tropical medicine, the first occupant of which is Dr. Creighton Wellman.

Hospital Notes.—The San Jose General Hospital was formally opened to the public September 3.——Plans have been completed for the new St. Francis Hospital, San Francisco. The building, equipment and furniture will cost about $200,000, and will be under the direction of Drs. John Gallwey, Walter B. Coffey, Wallace I. Terry, John H. Graves and Malcolm O. Austin.

New Medical Department Opens.—A meeting of the assembly was held September 8, for the formal assimilation of Cooper Medical College, San Francisco, with Leland Stanford, Jr., University. The address of the occasion was delivered by Dr. Henry Asbury Christian, Dean of Harvard Medical School, on "A Career in Medicine and Present-Day Preparation for It." Dr. Henry Gibbon spoke on behalf of the corporation of Cooper Medical College and President David Starr Jordan on behalf of the university.

Personal.—Irving Hardesty, Ph.D., of the University of California, has been appointed professor of anatomy in Tulane University, New Orleans.——Dr. Harold A. Miller has been elected president and Dr. Lewis W. Stidham, secretary, of the board of health of Alameda.——Dr. William A. Weldon, San Pedro, Dr. John F. Spencer, Gardena, and Dr. Pierronnette, Wilmington, have been appointed assistant health officers of Los Angeles county.——It is announced that Dr. Wallace I. Terry, San Francisco, chief surgeon of the Emergency Hospitals, will resign to take effect October 30.——Dr. Henry C. McClenahan, for six years superintendent of the Gardner Sanitarium, Belmont, has resigned, and will go to Europe for a year.

GEORGIA

Tuberculosis Clinic for Negroes.—A clinic and dispensary for the treatment of tuberculosis among negroes was opened August 3 in Atlanta, with Dr. J. Ansley Griffin in charge, and Drs. Julius E. Sommerfield and Wesley E. Taylor as assistants.

Personal.—Dr. Harry H. McGee was appointed city physician of Savannah, ad interim, vice Dr. Lawrence Dee, resigned, September 1, and Dr. B. H. Gibson was elected city

physician September 8.——W. D. Sloan, Milltown, and Jack Standifer, Blakely, have been appointed by the governor beneficiaries of scholarships at the Medical College of Georgia, Augusta.

ILLINOIS

Bequest.—By the will of Lawrence McMahon of Urbana, St. Elizabeth's Hospital, Danville, receives a bequest of $700.

Presentation to Dr. Greene.—On September 11, Dr. James L. Greene, recently appointed alienist of the State Board of Control, was called to the amusement hall at Kankakee State Hospital and presented with a diamond shirt-stud by the employees and a silver fruit dish and grape shears by the heads of the departments.

Personal.—Dr. Frank Parsons Norbury, Jacksonville, formerly resident physician of the Pennsylvania Institute for the Feeble-Minded, assistant physician of the Jacksonville State Hospital, and later proprietor of a private sanitarium in Jacksonville, was appointed superintendent of the Kankakee State Hospital, September 16, vice Dr. James L. Greene, resigned.——Dr. Francis W. Barton and family, Danville, sailed for Europe, September 22.——Dr. Carl J. F. Rochow, physician in charge of the Illinois Asylum for Feeble-Minded Children, Lincoln, has resigned.——Dr. Karl F. Snyder, Freeport, has succeeded Dr. John F. Fair, resigned, as local surgeon to the Illinois Central Railroad.——Dr. C. R. Spicer, Springfield, was elected national medical examiner of the Yeomen of America, September 17.

Chicago

Personal.—Drs. E. Fletcher Ingals, George E. Shambaugh and W. E. Buehler have returned from Europe.——J. B. Gookin, city chemist, resigned September 17, to take a similar position in the state food laboratories.—Dr. Robert H. Gault has been appointed instructor in psychology in Northwestern University.

Medical College to Open.—The opening exercises of the College of Physicians and Surgeons, the College of Medicine and Surgery of the University of Illinois, will be held September 28, in the college assembly hall at 8 p. m. Dr. William Allen Pusey will deliver the opening address.

Sources of Infection.—The chief of quarantine and disinfection of the health department has made investigation to determine the sources of infection of cases of scarlet fever and diphtheria reported during the week ended September 18, and finds the following to be the most prominent factors:

Association with unrecognized case at school—10 cases. Association with a case in the immediate vicinity—20 cases. "Following a cold"—only a predisposing factor, if true. More likely, the first signs of the illness were taken for a "cold." And here is where a danger lies to the patient and the community. At the playground. By coming in contact with mild undeclared or convalescing cases—4 cases. From unreported case—3 cases. Insanitary premises, only a predisposing factor. Previous case in family—2 cases.

It is always association with a previous case, in one way or another. The largest number of cases are found to originate from other cases in the immediate vicinity, and here the blame falls directly on the parties concerned.

IOWA

No Signs for Physicians' Homes.—It is reported that medical men of Des Moines are planning a campaign for the elimination of physicians' cards or signs from their residences.

Personal.—Dr. O. B. Hawley, Corning, received painful injuries in a fall from an automobile, September 1.——Dr. Smith A. Spillman, Ottumwa, who was operated on, August 26, for the removal of gall-stones, is reported to be securely convalescent.——Dr. Louis B. Carson, Maquoketa, has been seriously ill with septicemia due to an operation wound.——Dr. Robert J. Nestor has been elected health officer of Waterloo, vice Dr. Guilford H. Sumner.

KENTUCKY

Donation to Sanatorium.—Hon. R. T. Lightfoot, Paducah, and Superintendent Will Thompson of the McCracken County Sanatorium, have donated to the county the concrete material and rough lumber necessary for the erection of a tuberculosis hospital at the county poor farm.

National Guard Appointments.—Dr. Charles W. Hibbitt, Louisville, has been promoted from captain and assistant surgeon to major and surgeon of the First Infantry; Dr. George H. Day has been commissioned captain and assistant surgeon in the same organization.——Dr. Thomas C. Holloway, Lexington, has been commissioned major and surgeon.——Dr. Lee C. Redmon, Lexington, has been commissioned captain and assistant surgeon and assigned to duty with the Second Infantry.

MARYLAND

Fountain Dedicated.—At Middletown, on September 11, a public drinking fountain was dedicated, the gift of Dr. S. Philip Appleman, Braddock Heights, in memory of his deceased parents.

State Society Meeting.—The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland was held at Braddock Heights, September 15. In his presidential address, Dr. George M. Linthicum, Baltimore, took issue with the national referee board as to the harmlessness of benzoate of soda. The association is making plans to use its influence in the next legislature in behalf of a pure food, drug and beverage law; a slaughter-house and meat inspection law; a dairy and cow inspection law; a law providing for the state care of the insane; a midwifery law; adoption of the Crede method of prevention of ophthalmia neonatorum, and provision for an appropriation for hospital and medical schools and for the library and hall of the faculty.

Baltimore

Personal.—Dr. Robert Talbott Miller, Baltimore, has been appointed surgeon in chief of St. Francis Hospital, Pittsburg.——Dr. Benjamin Frayser has been appointed resident physician of the Pottsville (Pa.) Hospital.——Dr. Charles Metcalfe Burns has been appointed instructor in Johns Hopkins Medical School.

MICHIGAN

New University Planned.—A plan is proposed to amalgamate the Detroit College, Detroit College of Law and the Detroit College of Medicine and Surgery into an institution to be known as the University of Detroit.

Personal.—Dr. Henry W. Stiles of the University of Michigan has been appointed assistant professor of anatomy in Tulane University, New Orleans.——Dr. Edward V. Howlett, Trimountain, a member of the staff of the Copper Range Consolidated Mining Company, has resigned.——Dr. Nelson R. Gilbert, Bay City, has been reelected for the seventh time president of the board of control of the Home for Feeble-Minded and Epileptics, Lapeer.

MISSISSIPPI

Tuberculosis Camp to be Permanent.—The trustees of the Mississippi Insane Hospital, Jackson, have decided that the tuberculosis camp established there during Governor Vardaman's administration, shall be made permanent.

Personal.—Dr. W. R. Card, for six years assistant physician at the East Mississippi Hospital for the Insane, Meridian, has resigned to take effect October 1, and will move to Biloxi.——Dr. William W. Mathis, Orwood, has been appointed a member of the State Board of Health, vice Dr. Robert A. Seale, Holly Springs, resigned.

NEW MEXICO

Sanatorium Improvements.—The Cottage Sanatorium, Silver City, is erecting an administration building to provide the necessary accommodations for the medical and business staffs of the institution.

Do Not Wish Names Mentioned.—At the meeting of the Santa Fe County Medical Society, August 26, the secretary was instructed to request editors of local papers to prevent the appearance of the name of any physician in connection with the announcement of sickness and accidents of any person in the community.

Medical Society Organized.—The Pecos Valley Medical Society was organized in Roswell, August 31, with thirteen charter members and the following officers: Dr. J. E. Caldwell, Hagerman, president; Dr. O. R. Haymaker, Roswell, vice-president; Dr. Frederick J. Walters, Roswell, secretary-treasurer, and Drs. David H. Galloway, Roswell, Frederick F. Doepp, Carlsbad, and William W. Phillips, Roswell, censors.

NORTH CAROLINA

Pellagra in State Hospital.—Dr. James McKee, superintendent of the State Hospital for the Insane, Raleigh, reports the presence of 14 cases of pellagra in the institution.

Medical Colleges Open.—The seventeenth annual session of the North Carolina Medical College, Charlotte, opened September 8, with about 100 students in attendance.——The eighth annual session of the University of North Carolina Medical School, Raleigh, began September 8. The new members of the medical faculty are Dr. Watson S. Rankin, professor of general hygiene and preventive medicine; Dr. John S. McKee, demonstrator of obstetrics; and J. M. Harper, assistant demonstrator of pathology. A free out-patient clinic is to be conducted in connection with the school.

NEW YORK

Health Department at State Fair.—Arrangements have been made for an extensive exhibit illustrating the work done by the State Department of Health to be placed in the State Fair to be held in Syracuse on September 13 and subsequent days.

Tuberculosis Exhibitions at Fairs.—The State Charities Aid Association and the State Department of Health are once more cooperating in a joint campaign for the prevention of tuberculosis. Exhibits will be sent to 42 county fairs this fall.

Need of an Alcoholic Ward.—The vice-president of the State Prison Commission, in a report on the city prison in Raymond street, Brooklyn, complains of lack of accommodation for the care of persons suffering from alcoholism. It is absolutely impossible under present conditions to do them justice. He suggests that an alcoholic ward be installed in the Cumberland Street Hospital as soon as possible.

Superintendent of Hospital Responsible.—Attorney General O'Malley has advised the secretary of the board of trustees of the State Hospital for Tuberculosis, Raybrook, that the treasurer of the institution is not responsible for the defalcation of about $9,000 discovered last June in the accounts of the purchase clerk, and that as the purchase clerk was subordinate to Superintendent Garvin and his agent, and as the custody of the funds was placed in the superintendent's charge by the law, he was personally liable for the amount of the defalcation.

New York City

For Crippled Children.—The Darrach Home for Crippled Children has received $10,000 from the estate of the late Benjamin Ellis Martin.

Steamers Held at Quarantine.—The steamer *Martha Washington* from Patras and Palerma was held up at quarantine because of a case of smallpox in the steerage.——The steamer *Neapolitan Prince* from Rotterdam was also detained at quarantine for a thorough inspection.

For Tuberculous Children.—The Board of Education is making an effort to provide for tuberculous children and for those who may become tuberculous if not given proper care. They have asked for money to fit up twenty practically open-air school rooms for these children. Classes for the blind have also been established in connection with the public schools.

Reception to Pole-Finder.—On September 14, at a meeting of representative medical men of Brooklyn, in which the medical societies of Brooklyn and Long Island were represented, a committee composed of Drs. Walter B. Chase, Elias H. Bartley and Alfred Bell was appointed to tender a public reception to Dr. Frederick A. Cook at such a date as may suit his convenience.

Money for Charity.—The will of Michael Horn leaves bequests to forty-three charitable and philanthropic institutions. Among the larger bequests are $5,000 to Mount Sinai Hospital; $2,500 to the Montefiore Home; $500 each to the Flower Hospital, J. Hood Wright Hospital, German Hospital, Nursery and Child's Hospital, and Sydenham Hospital; and $750 each to Blackwell's Island Hospital, Beth Israel Hospital, Home for Aged and Infirm Hebrews and Jewish Hospital, Brooklyn.

Buffalo

Medical Examiners of Schools.—The acting health commissioner, Dr. Francis E. Fronczak, has appointed the following medical examiners for public schools: Dr. Franklin W. Barrows, District A; Dr. William C. Callanan, District B; Dr. David E. Wheeler, District C; Dr. Arthur C. Schaefer, District D, and Dr. Daniel V. McClure, District E.

Maternity Department in General Hospital.—Work which has been under way for several months at the Buffalo General Hospital for the perfection of a maternity ward, has been completed, and the city now has a modern obstetric department in which patients will be cared for by nurses specially trained for this class of work. Several nurses connected with the hospital who were sent to New York for a course of study at the Sloane Maternity, have now returned properly equipped for the care of cases in the ward.

District Society Meeting.—The fourth annual meeting of the Eighth District Branch of the Medical Society of the State of New York was held in Buffalo, September 8, and the following officers were elected: President, Dr. Edward Munson, Medina; vice-presidents, Drs. Thomas H. McKee, Buffalo, and John S. Wright, Perry; secretary, Dr. Carl S. Tompkins, Buffalo, and treasurer, Dr. Charles A. Wall, Buffalo. The society adopted resolutions urging the city of Buffalo to build a new isolation hospital at the earliest possible moment.

OHIO

Cocain Sellers Fined.—G. W. Reese and Manie Strauss, druggists of Cleveland, charged with the illegal sale of cocain, are said to have been found guilty and fined $700 each. The prosecution was undertaken by the State Board of Pharmacy.

Sanatorium Notes.—The commissioners of Clark, Champaign, Madison and Greene counties met in Springfield, August 27, and purchased for $35,000 the Hazelwood Place as a site for a joint tuberculosis hospital. The formal transfer was made on September 4.——The Ohio Sanatorium Company has sold its Columbus property known as Park View Sanatorium for $27,500 to the Protestant Hospital Company.

Personal.—Dr. Joseph C. Placak, for several years medical director of the Tuberculosis Sanatorium of the Department of Charities of the City of Cleveland, Warrensville, has resigned, to take effect October 1.——Dr. Charles H. Browning, Oberlin, who has been ill in the Cleveland Hospital, has returned much improved in health.——Dr. Frank C. Chvatal has been appointed city physician for the sixteenth district of Cleveland, vice Dr. John A. Hurt, resigned.

Elections.—At the annual election of the Stark County Medical Club at New Berlin, Dr. James Fraunfelter, Canton, was elected president, and Dr. Olivia G. Ricksecker, Wilmot, secretary-treasurer.——A Medical Library Club has been organized at Columbus, which will install and maintain a medical library in the public library. The following officers were elected: Dr. David N. Kinsman, president; Dr. Charles J. Shepard, vice-president; Dr. T. O. Fred Fletcher, secretary-treasurer, and Drs. Francis W. Blake, James F. Baldwin, John H. J. Upham, and William J. Means, members of the executive committee.

OREGON

Case Not Bubonic Plague.—After careful examination to determine the disease from which John McCarthy died at Portland, August 8, Dr. Ralph C. Matson, who has conducted the investigation, announces that he had found no positive signs of plague. He believes the case was one of septicemia.

Dedicatory Services.—The Bishop Morris Memorial Chapel in the new addition to the Good Samaritan Hospital, Portland, erected at a cost of $115,000, has been formally dedicated by Bishop Scadding. The addition to the hospital is a memorial to the late Right Rev. B. Wistar Morris, formerly Bishop of Oregon.

Personal.—Dr. Henry C. Jefferds, Portland, is reported to be critically ill with cerebral hemorrhage in the Good Samaritan Hospital.——Dr. Esther C. Pohl, Portland, is reported to be ill in St. Vincent's Hospital.——Dr. William Kuykendall, Eugene, has been elected grand physician by the executive council of the Women of Woodcraft.——Dr. Calvin S. White, who has been seriously ill in St. Vincent's Hospital, is reported to be convalescent.

PENNSYLVANIA

Memorial Tablet Unveiled.—A mural bronze tablet in memory of the late Dr. John Fay was presented and unveiled at the Altoona Hospital, September 16. Dr. William H. Howell presided and Dr. William S. Ross made the presentation of the tablet. The tablet was accepted by H. J. Cornman on behalf of the board of trustees of the hospital.

Personal.—Dr. William J. Davidson, physician to the Pressed Steel Car Company's works, McKee's Rocks, was severely wounded in the neck and arm during the recent labor riots.——Dr. George W. Carr has been appointed associate ophthalmologist to the Wilkes-Barre City Hospital.——Drs. Thomas G. Jenny and Henry Klinzling have been reappointed members of the Pittsburg Typhoid Fever Commission.

Unused Hospital to Be Opened.—St. Margaret's Memorial Hospital, Pittsburg, which was completed ten years ago, but remained unused because no funds had been provided for its maintenance, will be opened early next year, as the interest on the bequest now amounts to a sufficient sum to justify the opening of the institution. The building was originally erected by money from the Shoenberger estate, but as a provision of the will required that it be operated as a strictly sectarian institution, it was thus cut off from state aid.

Aids for the Decrease of Infant Mortality.—In the bulletin of the Department of Health and Charities of September 5, attention is drawn to the small number of deaths of children under 5 years of age, as compared with that of one year ago, namely, 2,004 children during the summer of 1909, or 14 per cent. less than during the summer of 1908. In 1908 the mortality was 2,341 children during the summer months. As many of these deaths were due to improper feeding and poor ventilation, Director Neff is anxious that the Philadelphia Alli-

ance for the Care of Babies, the Board of Education, Home School League and allied societies who commenced in the late spring to educate the young mother in the care of the baby in hot weather through lectures and home visitations should continue these demonstrations during the winter, and ask for volunteers in this life-saving work. There are many private schools in the city in which a smaller allowance per cubic feet of air space for each pupil is provided than is required in the tenement houses in the slum districts.

Philadelphia

College of Physicians Nearly Completed.—The new building for the College of Physicians at Twenty-second and Ludlow streets, which is practically completed, is to be formally opened November 10. The library of 300,000 volumes has already been installed, and the lecture, reading and reception rooms are receiving their finishing touches.

Personal.—Drs. Ross H. Skillern, Milton B. Hartzell, Theodore H. Weisenburg, R. R. Sinclair, Henry W. Cattell and Edward Martin have returned from Europe.——Dr. Paul G. Weston has been appointed pathologist at the Municipal Hospital.——Dr. Frank N. Yeager has been appointed physician to the health department and detailed by Dr. Neff to study infantile mortality and its causes.

Medical Colleges Open.—The annual opening of the Medico-Chirurgical College was held September 23.——The eighty-fifth annual opening of Jefferson Medical College was held September 24, and the annual address was delivered by Dr. J. W. Holland, dean of the faculty.——The exercises introductory to the session of 1909 and 1910 of the Woman's Medical College of Pennsylvania were held at the college September 22.

Class Reunion.—The class of 1885 of Jefferson Medical College announces its intention of holding a reunion in Philadelphia about April 2, 1910, on the occasion of the twenty-fifth anniversary of the graduation of the class. Members of the class are requested to communicate with Dr. Joseph D. Orr, class president, 215 Second street, Leechburg, Pa., and thereby facilitate the necessary arrangements for this social function.

Patients Benefited at the City's Farm for the Insane.—The result of the first year's work at the city's farm for the mildly insane has been highly satisfactory. More than a year ago the Byberry farm of 878 acres was purchased and a large number of the mildly insane patients formerly housed in the insane department of the Philadelphia Hospital were transferred to Byberry. The work on the farm has been executed by the insane patients and the receipts from vegetables and crops raised on the farm will aggregate $10,000. The principal object sought, namely, the improvement of the patients, and the pure air and steady exercise has brought about most excellent results. In some instances patients have been restored to mental health. Fifty patients are being treated at the farm at the present time and accommodations will be made later on for all those who can be trusted in outdoor work. Dr. Howard E. Bricker is in charge.

TENNESSEE

Pellagra Contagious.—At a meeting of the Tennessee State Board of Health, September 14, it is reported that it was decided to order the isolation of all cases of pellagra, the board expressing the opinion that the disease is communicable.

Tuberculosis Ward to Be Built.—It is proposed to erect a separate tuberculosis ward to be known as "The Boyd Memorial Tuberculosis Ward," in connection with the Knoxville General Hospital, in memory of the late Dr. John Mason Boyd.

Personal.—Dr. Frank S. Raymond, Memphis, is reported to be critically ill at the Ranch Sanatorium in Lincoln, N. M.——Dr. Ebb C. Johnston, Chattanooga, who had a cerebral hemorrhage at Hot Springs, Ark., August 16, has been brought home and taken to Erlanger Hospital.

Medical Schools Open.—Vanderbilt University, Nashville, opened for its annual session September 22.——The new medical college formed by the union of the medical departments of the University of Tennessee and the University of Nashville opened for its initial session September 12. Dr. Henry S. Morris has been elected to the chair of genitourinary diseases in the college.——Chattanooga Medical College opened for its twentieth annual session September 23.——The medical department of Lincoln Memorial University, formerly known as the Knoxville Medical College, will open for the year, October 1.

WASHINGTON

Hospital Annex.—The addition to St. Joseph's Hospital, Bellingham, the foundation of which has already been completed, is to be two stories in height and will cost $45,000.

Sanitaria Burn.—Two upper floors of the Kearney Sanitarium, Spokane, were burned September 4. The nine patients in the building were removed without injury.——The private sanitarium of Dr. Charles B. Alexander, Mabton, was totally destroyed by fire, September 8, with a loss of about $5,000.

Rush Alumni in Washington.—At the recent meeting of the Medical Association of the Pacific Northwest, the Rush Medical College Alumni Association of the State of Washington was organized, and the following officers were elected: President, Dr. Samuel J. Holmes; secretary, Dr. Frederick Bentley; and treasurer, Dr. Edward P. Fick.

Tuberculosis.—King County Antituberculosis League appeared before the Seattle council finance committee, September 3, asking an appropriation of $30,000 for the carrying on of the additional antituberculosis campaign during the coming year.——King county has given up the attempt to establish a camp for tuberculosis in the suburb of Tukwila, as the mayor protested and threatened arrest to any one who attempted to install a camp in that place.

WISCONSIN

To Erect Sanatorium.—The Wisconsin Council of the Improved Order of Red Men, at its annual convention in Galesville, August 12, decided to build a tuberculosis sanatorium in Douglas county, to cost $7,000.

Personal.—Dr. John F. Brown, physician at the state penitentiary, Waupun, has been appointed superintendent of the State School for the Blind, Janesville.——Dr. Louis Breitzmann, Menasha, is said to have been declared insane, and committed to the Northern Hospital for the Insane, Oshkosh.——Dr. J. P. Williams, formerly of Dodgeville, who was arrested at Janesville on the charge of practicing medicine without a license, is said to have been discharged on proving his registration.

Women Physicians Organize.—The Wisconsin Medical Women's Society was organized at Oshkosh recently, and the following officers were elected: President, Dr. M. Adeline Riddle, Oshkosh; vice-president, Dr. Anna S. B. Corr, Juneau; secretary, Dr. Minnie M. C. Hopkins, Oconto; and treasurer, Dr. Johanna M. Droppers, Milwaukee, and board of censors, Drs. Luella E. Axtell, Marinette, Belle Painter Nair, Port Atkinson, and Ella Chaffee-Fay, Whitewater. The next annual meeting will be held in Milwaukee.

GENERAL NEWS AND COMMENT

New Medical Journal.—The latest aspirant for honors in the field of medical journalism is the *Journal of the National Medical Association*, an association with a membership limited to colored physicians, dentists and pharmacists. The journal is published quarterly at the Tuskegee Institute, Alabama, and is creditable in every way.

Personal.—Dr. Juan Guiteras has consented to remain as director of sanitation and chairman of the National Board of Health for Cuba, as the government has now appropriated sufficient funds for the work of a department of sanitation.——Dr. Charles E. Ruth, Ponce, Porto Rico, formerly of Keokuk, Iowa, is said to have been mulcted in damages of $20,000 recently, for leaving a piece of gauze in the abdomen after abdominal section.

Mississippi Valley Medical Association.—The thirty-fifth annual meeting of the Mississippi Valley Medical Association will be held in the Southern Hotel, St. Louis, October 12-14, under the presidency of Dr. John A. Witherspoon, Nashville, Tenn., and gives promise of exceptional excellence, both from a scientific and a social view-point. Dr. Sherman G. Bonney, Denver, will deliver the oration in medicine, and Dr. John B. Deaver, Philadelphia, the oration in surgery. Among the interesting topics for discussion at this meeting are exophthalmic goiter, pellagra, and uncinariasis. The St. Louis Medical Society is the host of the association, and has made extensive plans for the entertainment of its visitors.

Individual Drinking Cups.—The Illinois Central Railroad is making arrangements to place individual drinking cups in all coaches of every description over the entire system. These cups will be placed in slot machines beside the water cooler, but will not displace the glass or free cups heretofore in use.——The Chicago and Northwestern Railroad has acceded to the request of the Iowa State Board of Health to abolish public drinking cups on all their trains in the state. The company has informed the secretary that it will place sanitary paper cups on sale in its cars.

BUDAPEST LETTER

(From Our Special Correspondent)

BUDAPEST, Sept. 7, 1909.

International Medical Congress

[An account of the scientific proceedings of the Congress will be found in the Department of Society Proceedings.]

The eventful week is over. No longer are Congress badges to be seen on the breasts of thousands of strangers hurrying to and fro. Budapest has returned to its normal state of existence. It was with some apprehension that I returned to the capital of Hungary for another congress; but to-day it is a satisfaction to be able to record the solid progress that has been accomplished. When last at Budapest the press representatives had to threaten to go on strike before any sort of facilities could be obtained; while, on the present occasion, all they asked was immediately granted. But in the interval the medical press has been organized into an international association. The demands now made are no longer the sometimes querulous and divergent exigencies of isolated individuals; they embody what the authorized representatives of the medical press, after meeting and discussing, agree to be necessary.

Modern Hungary and Scientific Progress

The Congress of 1894 was the first attempt made on a large scale to show that Hungary desired to join the comity of self-governed nations and was now attempting to play its part in the advance of universal science. For this reason it seems to be of the greatest interest to hark back and compare the Congress of 1894 with that of 1909, and see what has been accomplished by the childhood of a new nation.

In one sense, Hungary may claim to be an old nation. It is old enough to have been conquered and overrun by the Mongols in 1241. After recovering from this invasion, and till the all-conquering Turk came in 1541, there may be said to have been a kingdom of Hungary. That kingdom was shattered by the Turkish domination, which lasted 150 years. Finally the Germans helped to drive the Turks away and Hungary became attached to the Hapsburg dynasty and had no regular existence of its own till the restoration of a separate Hungarian constitution in 1867. Hungary then ceased to be a part of the Austrian Empire and the Austrian Emperor was solemnly crowned king of Hungary. Consequently, whatever shortcomings there may be, there is a tendency to plead, as an excuse, that Hungary has only been an independent nation for a very short time. Hungary, however, was more free before the constitution was proclaimed than is generally admitted, and is not so free, since 1867, as the patriotic Hungarian would make believe. In any case, it is hard to place much faith in the freedom of a country where only a very small proportion of the inhabitants have the right to vote. It is true, however, that modern methods of existence are spreading to Hungary. It is no longer an exclusively agricultural country. In 1869 the proportion of the population engaged in industrial pursuits only amounted to 4.19 per cent. of the total. This proportion had increased to 13.5 per cent. in 1900. In 1880 there were only 1,197 workshops, factories, etc., employing more than 20 workmen, and in 1900 there were 2,474 such establishments. The railway lines in 1869 measured 2,736 kilometers, while in 1901 their length amounted to 17,274 kilometers. This rapid economical development, rather than mere political modification, better explains the awakening interest of Hungary in all that relates to the progress of science, whether it be medicine, hygiene or chemistry.

Congress Rivalries

The question now naturally arises whether the difference between the Budapest Congress of 1909, when compared with the Congress of 1894, corresponds in due ratio to the growth of the nation as illustrated by the statistics given above. To imagine that such congresses are purely scientific meetings is of course a complete illusion. A government and a municipality do not spend large sums of money merely for the abstract love of science. Though the Congress was organized only for medical men, many of its members are official delegates of the governments of their respective countries, act under direct instructions from the minister of foreign affairs of their country, or are officials holding high positions in administrative services. This indeed complicates the situation. Thus, at Budapest, instead of planning to organize a congress where the discussions should be of the greatest possible use, therefore limiting the number of papers and members so as to secure the highest quality of contributions, the object, on the contrary, was to attract the largest possible crowd and to produce a dazzling effect. There were eighteen sections of the last Congress which met at Lisbon three years ago; then there must be twenty-one sections at Budapest. There were close on 3,000 members inscribed for the Lisbon Congress; then there must be 4,000 or 5,000 members for the Budapest Congress. Brilliant receptions and festivities were held at Lisbon; then something far more vast and extravagant must be done at Budapest. It is all very well to talk of medicine and of science, but first of all the world must be taught to admire Magyar magnificence and be made to realize that henceforth Hungary is worthy of a more important place in the comity of nations. Of course the Congress is not political, but all the same the above were the predominating considerations. Now, in such endeavors, it must be admitted that, in 1894, the Hungarians were not altogether successful. There were, on that occasion, about 2,500 members. The sections were very badly attended, though they contrived to carry more than a hundred different resolutions. But what marred the effect of the Congress was the admittance of a great number of irresponsible individuals. It would be better if local individuals should be made to pay an entrance fee four or five times higher than the members who come from abroad, as the former have but slight or no traveling expenses to bear. In 1894, a great crowd, who had little or nothing to do with hygiene, paid the $4 entrance fee, and in exchange participated in banquets, excursions, etc. On the other side must be placed the abundant hospitality shown, the excellent deportment and refined manners prevailing at some of the private receptions, the wonderful and pleasurable excursions organized, and the great cordiality displayed on every occasion by the Hungarian hosts towards their foreign guests.

The Present Congress

To-day there is a distinct improvement. Either things have been better managed, greater care has been taken regarding people admitted to the Congress, or better manners have been acquired in the lapse of fifteen years. In any case, during the Congress just terminated, while difficulties arose, mainly due to the fact that visitors were too numerous, there was no behavior of a character likely to compromise the dignity of the Congress. There is another important step forward to be recorded. The Hungarians have recognized that this is above all the century of social legislature. The creation at the universities and faculties of a chair of medical social science was urged by more than one speaker. The literature distributed by the local organizing committee was all intended to show that Hungary feared to be thought backward in this good cause. There was one volume describing the poor relief and the hospitals of Hungary. Another volume dealt with the sanitary services of the country, a third with the care of childhood, and a fourth with the treatment of the insane. Then the minister of public worship and public education, Count Albert Apponyi, sanctioned the issue, at the public expense, of a large and elaborately illustrated volume describing the faculties of medicine of Budapest and of Kolozsvar. A copy of this ponderous volume was given to all the members of the Congress. Like the other smaller books, it is printed in French, so that the great majority of the members will be able to read and understand this very notable effort to show that Hungary desires to take rank in regard to higher education and the social legislation. Unfortunately, much remains to be done. Misery is widespread among the people. Medical relief is not so readily forthcoming as a perusal of these books might lead a casual observer to imagine. For a population of 19,900,000 there were in 1906 only 5,370 physicians, 12,800 midwives, and 2,204 dispensing chemists. This was equal to 26.4 doctors, 62.9 midwives, and 11.3 dispensing chemists for every 10,000 inhabitants. There were during the same year 443 hospitals containing 37,545 beds where 366,200 patients had been treated or 815 patients per hospital. Altogether, there had been 11,182,000 days of treatment, which equals 2.2 hospitals and 1,789 days of treatment for every 100,000 inhabitants. Thus Hungary only stands in regard to hospital accommodation on a level with Galicia, Bukovina, Dalmatia and the most backward provinces of the Austrian Empire. But it is improving. For instance the statistics of the year 1902 show that there were 21.4 doctors, 40.5 midwives, and 9.7 dispensing chemists per 10,000 inhabitants. Comparing these with the similar figures just given for the year 1906 it will be seen that the increase is very considerable for so short a period as four years. But if the figures as to the wages earned by the population are investigated, then we shall wonder how and by whom these medical practitioners can be paid. In the rural districts the agricultural laborers earn $60, $80 and $100 per annum. In the United States I have seen these same men merely working as day laborers and yet earning as much in a day as they were able to obtain in their own country as the reward of a whole week's work.

The Archduke and the Right to Happiness and Health

Bearing these facts in mind, I was not a little startled by the speech with which the Archduke Joseph inaugurated the Congress. He said: "To be at the service of humanity, to consecrate all the physical forces and intellectual faculties that God has given us, to the well-being of our fellow-men, remains always the ideal object of our existence. We cannot do without the help of others, and the individual value of each man augments in due measure as his work is more profitable to other individuals or to humanity at large."

Therefore a man is to be estimated not according to the fortune he amasses for himself, but in accordance to his usefulness to others. The Archduke went on to say:

"What is true in regard to a person is still more true in regard to an entire profession. In this respect all equitably minded people must recognize that there are few professions exercising on the individual, or on the family, and, as a last consequence, on the whole life of states, an influence so profound and so widespread as that of the medical profession.

"Every living being has the desire and the right to be happy, and this for as long a time as possible. And it is no new truth that the fundamental condition of happiness on this earth is a healthy, satisfied and long life."

I could not help asking myself how were the toilers of Hungary to be satisfied and live a long healthy life on $2 a week. But the Archduke had said they had a "right" to be happy. Therefore they have a right to work and to receive a minimum wage which shall be high enough to provide what is necessary for health and happiness. An agitator proclaiming these principles at a street-corner meeting would run the risk of being roughly treated by the police. At the ceremonial opening of the congress a ready response was given to the Archduke by Professor Landouzy, dean of the Paris Faculty of Medicine, president of the French delegation and representative of the ministry of public instruction and fine arts of the French Republic. The most perfect silence prevailed, for Professor Landouzy's oratory is justly popular. I will endeavor to translate the passage which may be taken as a reply to the Archduke's remarks:

"Numerous are the reasons which have attracted so many colleagues to Transleithania. It is not only the renown of your thinkers, of your artists, of your scientists. It is not only the peaceful beauty and then the torrent force of your Danube, or the wealth of your Tisza, from whose banks flow your wines which are of gold in color and in value. Nor were we attracted by the souvenirs and the monuments of your glorious city. We came to see what you show with justifiable pride: the palaces, the libraries, the schools, the museums, the institutions which you have consecrated to the worship of the Arts, the Sciences and Charity. You are proud and rightly so of your institutions for the relief of the poor, for the spread of education and the spirit of human solidarity by which you desire that throughout Hungary the practise of medicine, having henceforth become as much the art of preventing as of of curing illnesses of the mind and of the body, shall be exercised with more justice so that, to promote the psychical and physical health of the people, there shall be a better distribution of material and moral well-being among individuals and collectivities."

Professor Landouzy proceeded to allude in terms perhaps more flattering than the facts justify to the fall in the death rate of Budapest and how the working class were better housed. In this respect considerable improvement has been effected; but terrible conditions still prevail and much yet remains to be done.

From Budapest to Washington

Thus it will be seen that in spite of all efforts to help these congresses on the neutral ground of pure science, there is no preventing the overlapping, I will not say of party politics, but of the higher considerations of policy bearing at least indirectly on practical legislation. If this is so for a medical congress, this must be more emphatically the case at the hygiene congresses. Therefore, all these details and explanations will, I trust, be of use in view of the next great international assembly which is to be held next year in the United States. The Fifteenth International Congress of Hygiene and Demography is to meet at Washington a year hence, and there many questions of social reform must be discussed. There will be great debates on what the French call the "laws of human solidarity;" and it is to be hoped that the description of the congress just terminated at Budapest will give suggestions that may help in preparing for next year's gathering at Washington.

(To be continued)

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Sept. 4, 1909.

Men of Feeble Constitution in the Army

According to the law of 1905, men summoned to military service are divided into three classes: (1) those fit to bear arms; (2) those who have good constitutions, but are excluded from the armed service because of some infirmity (excessive myopia, deformed feet, etc.), and who cannot possibly be used except in the auxiliary clinical service; (3) those who are sometimes called semi-fit; that is to say, those who have no definite physical defect, but whose feebleness of constitution is a bar to their bearing arms. The law was passed in the belief that regimental life might assist many of this last class to perfecting their physical development; therefore these men, at the end of a year of service, undergo a second examination as to their fitness to bear arms. The medical statistics of the army show that in regard to almost all affections the morbidity of the recruits is often twice, and sometimes more than twice, the morbidity of the soldiers who have undergone twelve months of service.

Now, to confine these "doubtful recruits," whose number is more than 20,000 a year, to clerical work, as is frequently done, is not to favor their physical development at all, but to destroy their usefulness for the defense of the country. What again would be realized, on the contrary, if these enfeebled men, instead of being treated as supernumerary clerks, were developed into real soldiers! With this idea in mind, some officers have constituted in the regiments platoons of the weaker recruits, who are put under a special regimen of work and of food, under the joint direction of officers and of the physicians of the corps. Serious difficulties, however, were encountered from the first, and the results were far from meeting expectations. The regimental medical service, already overworked, has not sufficient time to give to the weaker men; and their presence in the regiments is detrimental to the healthy men. At present, physicians and colonels are agreed in condemning the system of regimental platoons of weaklings.

An army physician, Dr. Solmon, has had the happy idea of withdrawing these soldier candidates from their regiments and of bringing them together at special points on the seacoast or in the mountains, chosen solely for hygienic reasons. The objections to the regimental platoons do not apply to these formations. They do not require much extra expenditure—a slight increase in nourishment and perhaps some expense for hygiene—and in return they permit much economy in respect to hospital treatment. No doubt only part of these semi-fit recruits will become sufficiently strong at the end of a year to become real soldiers, but even if only a half or only a quarter are so much improved, that would be 5,000 or 10,000 more men a year for the defense of the country. Even if the result is not completely attained from the military point of view, still the men will be returned to their families more vigorous than at their arrival in the regiment, and will have learned good habits in these schools of hygiene, which they will be ready to disseminate. The idea of platoons of invigoration (*pelotons de robusticité*), then, has a much higher purpose than merely the increase of our effective military forces. Its application would result in the marked physical regeneration of a large part of the population.

Illegal Practise of Pharmacy

Not all pharmacists practise their profession personally. There are, in fact, large pharmacies whose proprietors employ a great number of non-pharmacist clerks, who are engaged in the preparation of medicines. This being the case, the Paris medical society (*Syndicat Médical de Paris*) has just passed a resolution that the inspectors should exact that in conformity to the law, the preparation of medicines be carried out exclusively by graduate pharmacists in all the laboratories and manufactories of pharmaceutical products, and that all infractions of the law be severely repressed.

The society also has called attention to the anomaly in pharmaceutical studies, in that the pharmaceutical student, before entering on his theoretical studies, undergoes an apprenticeship in a laboratory, being entrusted with the preparation of medicines; while in all the other professions, the practical stage in general follows the theoretical studies, and is, so to speak, their consummation. The society, therefore, has passed a resolution that the apprenticeship ought to be at the end of the pharmaceutical course.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Sept. 1, 1909.

Naunyn's Seventieth Birthday

September 2 Professor Naunyn celebrates his seventieth birthday. Considering the great eminence in medical science of this renowned investigator, both at home and abroad, his birthday without doubt will be observed by many of his former pupils and colleagues. In his scientific success and in his entire personality, Naunyn may be reckoned among the classicals of medicine. In his keen criticism, his incorruptible love of truth and his excellent disposition, he is excelled by no one. Naunyn was born in Berlin. He was for a long time an assistant of Frerich, and in 1869 became professor of internal medicine at Dorpat, later at Bern and at Königsberg, and in 1888 went to the newly founded Kaiser Wilhelm University of Strasburg. His principal investigations are in the field of metabolic diseases. His work on diabetes mellitus and on the clinical relations of cholelithiasis are standards in medical literature. He was one of the founders of the *Archiv für experimentelle Pathologie und Pharmakologie* and of the *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie* (Communications from the Borderland of Medicine and Surgery). Five years ago he retired from the faculty of the university and betook himself to his villa near Baden-Baden. He has, however, not taken leave of his scientific work. Not only does he take part in medical congresses, but since his retirement he has published several works, among others a new edition of his monograph on diabetes. His last work is a spirited treatise on the general pathology and therapy of old age in the "Text-Book of Diseases of Old Age," published by Professor Schwalbe.

International Exhibition of Hygiene in Dresden in 1911

In 1911 there will occur a great exhibition of hygiene in Dresden, for which preparations are even now being energetically pushed forward. The king of Saxony will assume the protectorate of the exhibition. At the head of the honorary presidents are Prince Bülow and the present imperial chancellor. Koch, Behring, Ehrlich, Rubner and others belong to the honorary committee. The scientific management is in the hands of Weber, a member of the imperial board of health.

Left-Handedness in the Army

A short time ago a military surgeon presented to the army medical society the results of his studies on the occurrence of left-handedness in the army. He examined 300 left-handed soldiers. At least half of these came from families in which this peculiarity also occurred in other members; it appears to be twice as frequent among males as among females. Enuresis, feeble-mindedness, stuttering and other disturbances of speech occur much more frequently among left-handed than among right-handed people. The frequency of left-handedness is greatest among the recruits and diminishes with the length of service. The speaker reaches the conclusion that the left-handed are both physically and mentally less suited to military service than the right-handed.

Assistance of Physicians in Prussia

The arrangements existing in Prussia in previous decades for the assistance by physicians of their colleagues who are in want were considerably extended by a law passed in 1899. By this law each medical council, or *Aerztekammer*, was authorized to exact a yearly contribution to cover the expenses of the assistance bureau from the physicians in the district who are entitled to a vote. If the contribution was not voluntarily paid, compulsory collection could be enforced. From the contributions obtained in this way, most councils appropriate a sum for the assistance of physicians in need, and such aid has of late years become quite extensive. In 1908 the Berlin-Brandenburg medical council appropriated $12,000 (50,000 marks) for purposes of aid, and of this sum about $11,000 (46,000 marks) were expended; the assets of the assistance bureau at the end of 1908 were about $95,000 (395,000 marks). The bureau collects from every physician entitled to vote a fundamental tax of $2.50 (10 marks), and from all with a total income above $12,000 (50,000 marks) an additional sum of 5 per cent. of the state income tax. Besides these assistance bureaus of the medical councils, there are in Prussia a number of private aid societies which annually pay large sums to colleagues who are without means. For widows and orphans there are special funds provided; that of the *Leipziger Verband* is especially extensive and receives annually many voluntary contributions from the members.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Sept. 9, 1909.

The International Association of the Medical Press

The occasion of the International Congress was utilized for two other congresses. The one was the otologic congress, the other a convention of the International Association of the Medical Press. The latter discussed a project, prepared by the British section, which is thought will bring order into the present chaotic conditions of modern congresses. It is proposed to select an international committee to arrange everything in regard to congresses and to secure by proper payment the services of a reliable permanent international secretary, who would have to devote all his time to this work. Then the press could also obtain within a very short space the abstracts of all papers read in English, French and German, perhaps also in Italian, which was officially recognized at this congress as one of the congress languages. Dr. Dawson Williams (London) seconded this motion which was adopted, and London was selected as the place of the next congress, to be held in 1913.

The Otologic Congress

The Otologic Congress held its sittings on three days, and some good work was done. Of the papers read the following may be mentioned: Alexander (Vienna) read a report on "Suppurative Labyrinthitis" in which he recommended great care before deciding to operate; he does not operate unless the acute stage is over or when there is indicatio vitalis. Barany (Vienna) read a paper on "New Methods of Examination of the Hearing." Neumann (Vienna) spoke on the bacteriology and pathology of brain abscess and meningitis. Professor Denker (Erlangen) discussed the "Pathologic Changes in the Inner Ear of Deaf-Mutes." The Lenvall prize for the best work in otology was awarded to Drs. Neumann (Vienna) and Gray (Glasgow) together. Dr. Neumann's prize-winning work was on "Local Anesthesia in Otology," and the monograph "Suppurative Labyrinthitis." The next otologic congress takes place in 1912 in Boston.

Reform of Midwifery

Dr. von Haberter, who was appointed a short time ago to the post of chief inspector of health, is directing his main efforts toward a reform of the midwifery act now in force. The most important of the features of a bill prepared by his advice is the lengthening of the curriculum of the midwives from six months to two years. Of these twenty-four months, six are to be devoted to preliminary and theoretical, eighteen to practical instruction. The present regulations in many places permit any woman to call herself a midwife without having obtained any proper teaching at all. The want of midwives, especially in the poorer mountainous districts, is very keen; especially as medical help in such places is still less available, and therefore, the authorities have not been very strict. But now it is intended to put into each village inhabited by at least 200 families a midwife with full qualifications, unless there is a doctor in the place. The study of midwifery must be conducted in one of the special midwifery clinics (five proposed, of which three are already present). An examination must be passed, which will entitle the woman who has reached the required number of marks to a diploma in midwifery. Frequent surprise visits by the district officers of health are also planned, in order to see that all sanitary regulations are followed out by the midwives. Puerperal fever among the cases in the charge of one woman is to incapacitate her for a period of eight days after her last visit there, and special stress is laid on the necessity of the quarantine in the instruction given to them. Every year at least one "midwives'-day" or local congress will be held by the chief officer of health of the district, to inform them of any important facts dealing with midwifery. Meanwhile the necessity of instructing the present working midwives in modern asepsis and antisepsis, the nursing of infants, the value of breast-feeding, and the routine use of Credé's instillations of silver nitrate or another silver preparation into the eyes of the new-born is urgent, and instructors are few. The women without diplomas are, therefore, offered an opportunity to obtain at least the fundamental principles of this work through so-called *Wanderlehrer* (migrating teachers) sent out to the smaller places. After a certain time (two years are considered too short) only qualified matrons will be allowed to take up this kind of work. It is estimated that, while the costs of these reforms will not amount to more than $150,000 a year, the saving to the public will be more than treble this figure.

Pharmacology

Canadian Act Respecting Proprietary or Patent Medicines

The act passed by the Canadian government regulating the sale of proprietary or "patent medicines" requires that every manufacturer or importer of such medicines shall, before offering them for sale, procure from the Department of Inland Revenue a certificate of registration. The application for this certificate must be accompanied by a list of the medicines to be covered and also by the fee of one dollar. The following are important sections of the law:

"All proprietary or patent medicines shall be put up in packages or bottles, and every one of these, intended for sale or distribution in Canada, shall have placed on it, in conspicuous characters forming an inseparable part of the general label and wrapper, the name and number under which the medicine is registered, with the words, 'The Proprietary or Patent Medicine Act,' and also the manufacturer's name and address. . . .

"No proprietary or patent medicine shall be manufactured, imported, exposed, sold or offered for sale (a) If it contains cocain or any of its salts or preparations; (b) if it contains alcohol in excess of the amount required as a solvent or preservative, or does not contain sufficient medication to prevent its use as an alcoholic beverage; (c) if it contains any drug which is included in the schedule to this act but the name of which is not conspicuously printed on, and an inseparable part of, the label and wrapper of the bottle, box or other container: Provided that every manufacturer or importer of or agent for the sale of any medicine containing any of the drugs mentioned in the schedule may, when applying for a certificate of registration for any medicine, transmit to the minister an affidavit specifying such drug and the proportion of it contained in the mixture and dose, and the minister may thereupon grant a certificate of registration for such medicine without the printing of the name of the said drug on the label and wrapper if it appears to the minister that the proportion of the drug used is not dangerous to health.

"No person, firm or corporation shall distribute or cause or permit to be distributed from door to door, or on a public place or highway, or through the mail, any sample of a proprietary or patent medicine: Provided this section shall not prevent manufacturers or wholesale dealers distributing samples to the trade.

"No manufacturer, importer or vendor shall in any advertisement or in any other manner, assert or indicate that the certificate of registration issued by the minister passes on the merits of any proprietary or patent medicine, and no reference to such certificate, or to any other certificate or guarantee, other than by this act specially provided, shall be made in any advertisement, on any label on the package or bottle in which such medicine is contained, or in any other manner. No proprietary or patent medicine shall be imported, exposed, sold or offered for sale in Canada which bears any representations as respects certificates issued under any Canadian or foreign governments different from that allowed under this Act.

"The Governor in Council may . . . add to or remove from the schedule to this Act any poisons or potent drugs, as from time to time he deems expedient, and notice thereof shall be given in the *Canada Gazette*."

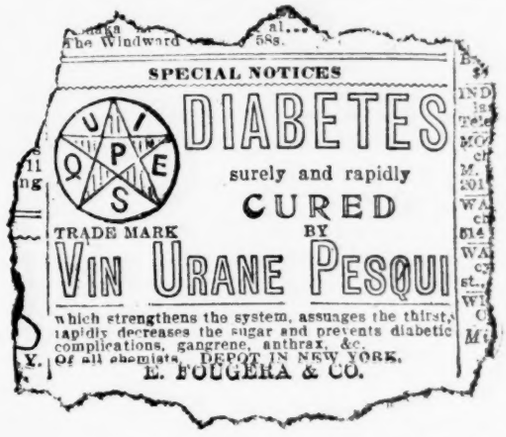
The schedule of drugs previously referred to includes the following remedies: Acetanilid and other coal-tar products; aconite and its preparations, arsenical preparations, atropin, belladonna and its preparations, cantharides, carbolic acid, chloral hydrate, chloroform, conium and compounds thereof, corrosive sublimate, cotton root, croton oil, digitalis and derivatives, ergot, essential oil of mustard, ether, hellebore, heroin, hyoscyamin and its preparations, Indian hemp, morphin and its preparations; nux vomica and derivatives; opium, its preparations and derivatives; pennyroyal, phenacetin, prussic acid, savin and preparation thereof, strychnin and its preparations, sulphonal, tansy, tartrate of antimony and veratrum. It is announced by the authorities that provision prohibiting sale of medicines containing cocain will be rigidly enforced.

A proprietary or "patent medicine" is defined in the act as follows: "'Proprietary or patent medicine' means every artificial remedy or prescription manufactured for the internal use of man, the name, composition or definition of which is not to be found in the British Pharmacopeia, the Codex Medicamentarius of France, the Pharmacopeia of the United States or any foreign pharmacopeia approved by the minister, or any formulary adopted by any properly constituted pharmaceutical association representing the Dominion of Canada, approved by the minister; or on which is not printed in a conspicuous manner, and forming an inseparable part of the label and wrapper, the true formula or list of medicinal ingredients, which must not contain cocain or any of its derivatives or preparations."

"Patent" versus "Ethical Proprietary" Medicines

To the Editor:—The enclosed clipping appears on page 11 of the *New York Herald* for Sept. 9, 1909. The ludicrousness of the paper appeals to my sense of humor. It assails so-called vivisection with a venom equaled only by its ignorance of the facts of animal experimentation, yet it submits its readers to such obviously dangerous and untrue statements as appear in the enclosed advertisement. Such inconsistency makes one distrust the self-vaunting publication in which it appears.

HAROLD S. ARNOLD, M.D., New Haven, Conn.


SPECIAL NOTICES
DIABETES
surely and rapidly
CURED
TRADE MARK
BY
VIN URANE PESQUI
which strengthens the system, assuages the thirst, rapidly decreases the sugar and prevents diabetic complications, gangrene, anthrax, &c.
Of all chemists. DEPOT IN NEW YORK.
E. FOUGERA & CO.

COMMENT: The advertisement to which Dr. Arnold refers is here reproduced. It will be noticed that this particular nostrum is another of the "cures" handled by Messrs. E. Fougera & Co. Fougera & Co. was one of the firms that put themselves on record as being opposed to the work of the Council on Pharmacy and Chemistry when that body was first created. One of the preparations which this firm advertises to the public is "Santal Midy." "Cures in 48 hours," the advertisements used to read, but since THE JOURNAL called attention to the fact that promising to cure gonorrhea in two days was rather a large order, this has been modified—in American advertisements—to "relieved in 24 hours." We find in Australian newspapers, however, that "Santal Midy" still "cures in 48 hours."

Deterioration of Galenicals

Notwithstanding the general belief that drugs deteriorate readily it is true that the ordinary alcoholic preparations of alkaloid-containing drugs are fairly stable. Dr. A. R. L. Dohme (*American Druggist and Pharmaceutical Record*, July 26, 1909), has investigated the rate of deterioration for a number of galenical preparations by assays made at specified intervals. The stock was exposed to light and from it small amounts were repeatedly taken, so as to imitate the conditions prevailing in the ordinary retail drug store. Practically none of the products examined had deteriorated to any appreciable extent, while in such as had, the deterioration came well within the limit of experimental error. The exceptions to this are powdered extract of physostigma, fluidextract of coca, fluidextract of aconite root, and the tincture of aconite root, after a half-year's standing.

The deterioration in the case of tincture of aconite root was not great enough to affect its therapeutic value markedly. Strange to say tincture of coca was found not to deteriorate, in which respect it differed from the fluidextract. Contrary to general belief nitroglycerin tablets were found to be quite stable.

Correspondence

Purification of Water by Ozone

To the Editor:—An interesting editorial on the purification of water by ozone appears in THE JOURNAL, August 21. In the closing paragraph appears the following:

"To justify the introduction of any new system of water purification, even though it be one of recognized efficiency, the question of comparative cost should be presented in such a way as to convince reasonable inquirers. This has not yet been done with the ozonization process."

May I be permitted to draw your attention to the fact that in America data are available covering the comparative costs of ozonization and sand infiltration. The Murphy Cold Storage & Ice Company of Detroit have for over two years been sterilizing water by ozone, and they have found that it cost 4 cents for electric energy for 50 tons of water sterilized.

At Lindsay, Ontario, an ozone purification plant has been in operation since last October purifying the entire water supply of the town, amounting to about one million gallons a day. The entire cost of purification, including pre-filtration, is 44 cents a million gallons. The plant has proved so efficient that the town has decided to double its capacity in order that all the water entering the mains, even during the time of conflagration, may be ozonized. When this change is made the cost of operation will probably be under 44 cents a million gallons.

At Lindsay, Ontario, electricity is fairly cheap—$35 a horsepower year. Electricity, however, can be made in any part of the United States for 1 cent a K. W. hour. This includes interest charges and maintenance. The cost of ozonizing a million gallons of water, stated in electric units, is 100 K. W. hours per million gallons. These costs, which have been obtained in actual practice, are far below those of any European system of ozonization.

Concerning costs of installing a municipal water purification plant, these will naturally vary with local conditions, but, generally speaking, an ozonizing plant, including rough filters for straining out the suspended matter from the water prior to ozonization, will be about $15,000 per million gallons daily capacity.

The comparative cost, then, of ozonization and filtration may be roughly set forth as follows:

INSTALLATION COST

Slow sand filter plants, average for the United States, $30,000 per million gallons daily capacity.

Ozonization plants with pre-filters, $15,000 per million gallons daily capacity.

OPERATING COST

Average of slow sand filters in the United States, $5 per million gallons.

Average of ozonization at one cent per K. W. hour, including pre-filtration, $1.40.

In neither of these cases are interest and maintenance charged. The 40 cents added to the cost for ozonization is the cost of pre-filtration, and ordinarily this cost is less than 20 cents per million gallons.

It may interest you to know that ozonizing plants are now in process of construction at Baltimore, to have a capacity of ten million gallons a day, and at Ann Arbor, with a capacity of three million gallons a day. These plants will be in operation, the former during the present month, and the Ann Arbor plant in October.

JAMES HOWARD BRIDGE.

The Section on Pharmacology and Therapeutics

To the Editor:—We naturally expect the American Medical Association always to set the best example to the profession, and to uphold the modern and scientific conception of medicine. Yet it has now a Section bearing the antiquated, injurious and unscientific title of "Section on Pharmacology and Therapeutics." Why not drop "and Therapeutics" and term it "Section on Pharmacology" simply, as the Section on Surgery dropped "Anatomy"?

In the case of the Section on Pharmacology, there are stronger reasons for omitting "Therapeutics," as this is misleading and inaccurate.

1. Therapeutics, in medical parlance, implies something more than the administration of drugs. It includes all remedial measures used with patients—surgical, psychic and mechanical—as well as pharmacal. Yet the present title of the Section is so slip-shod and unscientific as to create the impression that there is no other therapy than pharmacotherapy.

2. The justification for all the new-fangled, non-professional systems of healing is found in this erroneous use of the term "therapeutics." All these healers want to escape the incidence of the medical registration laws by claiming that, as they do not use drugs, they do not require to be licensed to practise. And even some judges have been so ill-informed as to declare from the bench that the practise of medicine is the administration of drugs, or so-called medicine, and that those who use no drugs are not medical practitioners! Hence the correct definition of medical practise is obstructed by the perpetuation of the incorrect use of the term "therapeutics" by certain colleges and the public. This confusion of words and ideas is extremely detrimental to legitimate medical practitioners; and therefore it should not be endorsed, upheld and perpetuated by the American Medical Association.

3. There is no proper connection—and this is most important—between pharmacology and therapeutics in modern and scientific medical teaching. The logical relation of therapeutics is to internal medicine or to surgery, as the case may be, but not to materia medica. A scientific teacher holding the chair of pharmacology will not imitate the herbalists and dispensatories by telling his class that such a drug is good for this and that disease. He has nothing to do with diseases or pharmacotherapy. His business is to teach all about the drug in question and its physiologic action—its pharmacodynamics; and he should leave the student who is well informed in regard to the physiologic action of drugs to exercise his own reasoning powers in judging of the cases in which they should be selected for administration. This is the method of that most praiseworthy institution, the Council on Pharmacy and Chemistry. And, if pharmacology were taught thus, we should get rid of a whole host of useless and ineffective drugs, while the list stored in the new graduates' minds would be compact and valuable and the action of every article would be fully understood.

If the Section's name means "Section on Drug Therapeutics," it should say so. But the term "pharmacology" is description enough; for, in fact, the Section has no business to enter the field of therapy at all, if its true function be to discuss pharmacology in a scientific spirit.

W. P. WHERY, M.D., Fort Wayne, Ind.

Binocular Spacial Pole

To the Editor:—I wish to announce that on September 4 I discovered the binocular spacial pole, a discovery of much importance in the study of binocular single vision and binocular rotations. In the near future I hope to report fully on the matter.

G. C. SAVAGE, Nashville, Tenn.

Use of Appendix to Splice the Ureter

To the Editor:—The article on splicing the ureter, by Dr. Harvey P. Jack in THE JOURNAL (Aug. 28, 1909, liii, 717) prompts me to report the results of some experiments of my own, carried on in the experimental laboratory of Tulane University during 1908.

In a series of experiments undertaken on dogs to find some satisfactory method to splice or graft a damaged or diseased ureter, the appendix was used in a limited number with the following results: While the transplantation and anastomosing could be easily done, infection of the kidney invariably followed in from one to three weeks and ultimately caused the loss of the animals. Various means were resorted to to clean the inside of the appendix; it was swung out of the cavity and copiously flushed, but, as was to be expected, cleansing by this method was impossible.

Some of the transplantations were done with the appendix attached to its mesentery, others with division. In these latter some of the appendices sloughed. In all cases in which leaking

at points of suture did not occur or no sloughing occurred the appendix invariably became converted into a pus sac and infection of the kidney followed. Certain anatomic differences exist between the appendix of the dog and that of the human being; in the dog it is nearly the size of the small intestine, but that this would make any difference in causing the infection is doubtful. An organ more likely to succeed in being used to replace sections of the ureter is the Fallopian tube; this has been suggested by several workers in this line but as yet not demonstrated practically.

CARROLL W. ALLEN.

Clinical Instructor in Surgery, Tulane University, New Orleans.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HYDROGEN PEROXID CONSIDERED AN ACID

To the Editor:—Under New and Nonofficial Remedies, in THE JOURNAL, Aug. 7, 1909, liii., 460, sodium peroxid is mentioned as "the sodium salt of hydrogen peroxid." From this it is evident that hydrogen peroxid is considered an acid. If so, for the sake of right and scientific nomenclature, H_2O_2 should be called "hydrogen acid" and Na_2O_2 "sodium hydrogenate" (?), but this is, of course, nonsense. Therefore it seems to me hardly possible to consider Na_2O_2 as a salt.

I must confess that I studied inorganic chemistry more than twenty years ago, but I have studied it under direction of the famous Professor Mendelejeff of St. Petersburg, who impressed on his students thorough understanding of the fundamental principles of chemistry and, as far as I can remember, he never mentioned even a possibility of such a compound as peroxid of sodium.

Therefore, I take the liberty of asking if Na_2O_2 is really a chemical compound and, if so, whether it is properly classified as a salt.

G. N. PINEGIN, M.D., Yonkers, N. Y.

ANSWER.—While hydrogen peroxid does not turn litmus paper blue, does not appear to neutralize aqueous solutions of alkaline hydroxids, nor does it liberate hydrogen when its aqeous solution is treated with zinc as will ordinary acids, it nevertheless does possess certain properties which characterize it as an acid and which justify the statement that sodium peroxid is the "salt" of hydrogen peroxid. Elaborate researches demonstrating the acidic nature of hydrogen peroxid have been made by Bredig (Ztschr. f. Elektrochem., vii, 622). Marcuse and Wolffenstein (Ber. d. deutsch. chem. Gesellsch, xxxiv, 2430) and others, have also studied the question. Alexander Smith, professor of chemistry at the University of Chicago, in his "General Chemistry for Colleges," says: "Hydrogen peroxid, in solution in water, is a feeble acid. As an acid it enters into double decomposition readily, and the peroxids are really salts in which the negative radicle is O_2". Thus, when hydrogen peroxid is added to solutions of barium and strontium hydroxids, the hydrated peroxids appear as "crystalline precipitates." Modern chemistry prefers, instead of the terms nitric acid, sulphuric acid, hydrochloric acid and hydrosulphuric acid, the terms hydrogen nitrate, hydrogen sulphate, hydrogen chlorid and hydrogen sulphid; hence the term hydrogen peroxid is in accord with chemical nomenclature.

THE USE OF "OUGHT" AND "SHOULD"

To the Editor:—I much regret that, in my criticism (THE JOURNAL, Sept. 11, 1909, liii, 883) of the word "ought," as used by Dr. Keen, I appeared to you "somewhat hypercritical," for to be so was far from my intention.

I certainly agree with you that the derivation of a word should have some weight in determining its meaning; but, for modern literary purposes, there is no more reason why we should go back five centuries to Chaucer's time for our most approved diction than there is why we should draw on him for our spelling. In view of what you say of Dr. Harbin's criticism, I think you will agree with me that very few words exist that have exactly the same practical application; for it must be remembered that every word has a life-history, and that its meaning, in virtue of the law of utility and of definite expression, and not for the sake of convenience, as you seem to think, has been so modified in many instances, as by this time to bear little or no resemblance to what it originally was. If this were not so, we should actually be facing the uncomfortable dilemma, which you suggest, of having on our hands two such frequently used words as "should" and "ought" with the very same meaning.

It strikes me that if every public writer would strive to follow the plain advice which is said to have been given by the polished literary artist, Flaubert, to Maupassant, namely, that "whatever may be the thing one wishes to say, there is but one word for expressing it, only one verb to animate it, and only one adjective to qualify it," there would be less indiscriminate use of words like "ought" and "should," and fewer offenses against good style.

THOMAS J. MAYS, Philadelphia.

The Public Service

Medical Department of the Army

Changes for the week ended Sept. 18, 1909:

Freeman, C. E., capt., ordered to accompany troops from San Francisco, to Fort Niagara, N. Y.

Hollester, R. H., cont. surgeon, ordered to Fort Omaha, Nebr., for duty.

Morse, A. W., major., now on leave of absence, ordered to accompany 29th Inf., from San Francisco, to Fort Jay, N. Y., on completion of this duty to resume leave status.

Ewing, C. B., Kendall, W. P., Banister, W. B., Bradley, A. E., Willcox, Chas., Frick, E. B., Keefer, F. R., and Raymond, T. U., majors, ordered to report on Oct. 11, 1909, to Lieut. Col. H. P. Birmingham, president examing board, Army Medical Museum Bldg., Washington, D. C., for examination to determine their fitness for promotion.

Jones, E. C., M. R. C., granted leave of absence for 10 days.

Cook, G. W., M. R. C., granted leave of absence for 10 days.

Marvin, M. F., M. R. C., relieved from duty at Fort Mansfield, R. I., and ordered to proceed to his home and report to The Adjutant General of the Army for further orders.

Slater, E. F., M. R. C., relieved from duty at Fort Adams, R. I., and ordered to Fort Mansfield, R. I., for duty.

Shillock, Paul, major., having been found physically incapacitated for active duty, is relieved from duty at Fort Sheridan, Ill., and will proceed to his home to await retirement.

Wall, F. M., M. R. C., relieved from duty at Fort Oglethorpe, Ga., and ordered to Fort Michie, N. Y., for duty.

Brechemin, Louis, Jr., capt., granted leave of absence for 4 months, on arrival in the United States.

Stuckey, H. W., M. R. C., ordered to Fort Hamilton, N. Y., for duty; granted leave of absence for 2 months.

Purviance, W. E., major, Bosley, J. R., capt., and Waring, J. B. H., lieut., will proceed to San Francisco, in time to take the transport sailing for the Philippine Islands about Nov. 5, 1909.

LaGarde, L. A., lieut. col., detailed as member of examining board at the Army Medical Museum Building, Washington, D. C., vice Crosby, W. D., lieut. col., relieved from duty on this board.

Waring, J. B. H., lieut., will accompany troops en route from transport *Thomas*, to Fort Porter, N. Y., and return to his proper station; on completion of this duty granted leave of absence for 10 days.

Duncan, L. C., capt., granted leave of absence for 1 month.

Freeman, C. E., lieut., will accompany troops en route from the transport *Thomas*, to Fort Porter, N. Y., and return to his proper station; granted leave of absence for 20 days.

Bowman, M. D., M. R. C., will report to the C. O., Fort Miley, Cal., for temporary duty during absence of Lieut. Freeman.

Truby, A. E., major, will accompany insane patients from San Francisco, to Washington, D. C., and report to the Adjutant General for orders to return.

Suggs, Frank, M. R. C., ordered to Fort Hamilton, N. Y., for duty.

Freeman, Paul, capt., granted leave of absence for 4 months.

Jenkins, F. E., M. R. C., granted leave of absence for 3 months, with permission to go beyond the sea.

Gentry, E. R., Edwards, G. M., Heflebower, R. C., Welles, E. M., Jr., Thearle, W. H., McAfee, L. B., Michie, H. C., Jr., Holmberg, C. E., Schlanser, A. E., Beeuwkes, H., Carr, W. B., Aydelotte, J. T., Allen, W. H., Reynolds, Royal, Kremers, E. D., Weed, M. D., Darby, T. E., Ferenbaugh, T. L., Lamb, W. P., Davis, A. O., Klotz, S. P., Cooper, W. E., Davis, W. C., DeVoe, R. G., Woodson, T. D., Sheep, W. L., Gillespie, J. M., Beery, H. R., Cooper, A. T., Shugerman, H. P., Haverkampf, C. W., Kramer, Floyd, Hill, F. R., Casper, Joseph, M. R. C., ordered to report to Col. Valery Havard, president, Army Medical School, on Oct. 1, 1909, for a course of instruction at that school.

Geddings, E. F., major, granted leave of absence for 4 months, about Oct. 1, 1909.

Raymond, H. L., lieut. col., granted leave of absence for 1 month, about Sept. 16, 1909.

Laflamme, F. L. K., dental surgeon, will proceed to Fort Wayne, Mich., Fort Brady, Mich., and Fort Benjamin Harrison, Ind.

Medical Corps of the Navy

Changes for the week ended Sept. 18, 1909:

Robbins, I. W., acting asst.-surgeon, detached from the Naval Hospital, Mare Island, Cal., September 25, and ordered to instructions at the Naval Medical School, Washington, D. C.

Rose, M. E., asst.-surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Celtic*.

Thompson, F. W., acting asst.-surgeon, detached from the *Celtic*, and ordered to instruction at the Naval Medical School, Washington, D. C.

Payne, J. H., P. A. surgeon, detached from the Naval Recruiting Station, Hartford, Conn., and ordered to the Naval Hospital, Navy Yard, New York.

Kuder, W. S., asst.-surgeon, unexpired portion of sick leave revoked, ordered to the Naval Recruiting Station, Hartford, Conn.

Stuart, M. A., asst.-surgeon, detached from duty with the Marine Detachment, Camp Elliott, Canal Zone, Panama, and ordered to duty at Ancon, Canal Zone.

Ziegler, J. G., asst.-surgeon, detached from duty at the Naval Hospital, Navy Yard, Pensacola, Fla., and ordered to duty with the Marine Detachment, Camp Elliott, Canal Zone, Panama.

Public Health and Marine-Hospital Service

List of changes for the seven days ended September 15, 1909.

Glennan, A. H., asst. surgeon-general, detailed to represent the Service at the meeting of the Association of Military Surgeons, to be held in Washington, D. C., October 5-8, 1909.

Kerr, J. W., asst. surgeon-general, directed to proceed to Chicago and Springfield, Ill., on special temporary duty.

Carter, H. R., surgeon, Bureau order of July 20, 1909, revoked. Directed to proceed to Louisville, Ky., and assume command of the Service.

Banks, Charles E., surgeon, granted three days' leave of absence from September 14, 1909.

McIntosh, W. P., surgeon, leave of absence granted August 11, 1909, for 21 days from September 1, 1909, amended to read 10 days from September 1, 1909, and 11 days from September 27, 1909.

Wertenbaker, C. P., surgeon, detailed to represent the Service at the meeting of the Association of Military Surgeons, to be held in Washington, D. C., October 5-8, 1909.

Young, G. B., surgeon, detailed to represent the Service at the meeting of the Association of Military Surgeons, to be held in Washington, D. C., October 5-8, 1909.

Lumsden, L. L., P. A. surgeon, detailed to represent the Service at the annual meeting of the Medical Society of the State of Virginia, to be held in Roanoke, Va., October 5-8, 1909.

Fricks, L. D., P. A. surgeon, granted three months' leave of absence from September 24, 1909.

Creel, R. H., P. A. surgeon, on the arrival of Surgeon H. R. Carter, relieved from duty at Louisville, Ky., and directed to proceed to Philadelphia and assume temporary charge.

Robertson, H. McG., P. A. surgeon, granted two months' leave of absence from October 1, 1909.

Sweet, E. A., P. A. surgeon, granted 21 days' leave of absence from September 9, 1909.

Ridlon, Joseph R., P. A. surgeon, granted six days' leave of absence from September 11, 1909.

Elfers, J. C., acting asst.-surgeon, granted twenty days' leave of absence from September 11, 1909.

Hamilton, H. J., acting asst.-surgeon, granted three days' leave of absence from September 14, 1909.

Hough, J. S., acting asst.-surgeon, leave of absence, granted April 1, 1909, amended to read 3 months and 25 days from April 1, 1909.

Nute, A. J., acting asst.-surgeon, granted 25 days' leave of absence from September 10, 1909.

Tappan, J. W., acting asst.-surgeon, leave of absence for 30 days from August 2, 1909, amended to read 26 days from August 2, 1909.

Tarbell, B. C., acting asst.-surgeon, leave of absence granted July 9, 1909, amended to read 30 days from August 1, 1909, with pay, and 13 days from September 1, 1909, without pay.

Stevenson, J. W., acting asst.-surgeon, leave of absence for 30 days from August 29, 1909, without pay, revoked.

Villoldo, P., acting asst.-surgeon, granted 21 days' leave of absence from September 20, 1909.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Sept. 17, 1909:

SMALLPOX—UNITED STATES

Indiana: Fort Wayne, Aug. 21-Sept. 4, 6 cases.
Kentucky: Lexington, Aug. 7-21, 2 cases.
Minnesota: Duluth, Aug. 20-27, 1 case.
Ohio: Dayton, Aug. 28-Sept. 4, 2 cases, 1 death.
Oregon: (8 counties), June 1-30, 27 cases.

SMALLPOX—FOREIGN

Arabia: Aden, Aug. 2-9, 1 death.
Brazil: Bahia, July 16-Aug. 6, 15 cases, 6 deaths; Rio de Janeiro, July 11-24, 9 cases, 7 deaths, July 31-Aug. 8, 8 cases, 1 death.
Chile: Valparaiso, Aug. 7-14, present.
Egypt: Cairo, July 15-22, 3 cases.
France, Paris, Aug. 3-9, 1 case.
Germany: Konigsburg District, Aug. 7-14, 3 cases.
India: Bombay, July 20-27, 5 deaths, Aug. 3-10, 4 deaths; Madras, July 17-23, 1 death, July 31-Aug. 6, 1 death; Rangoon, July 24-31, 1 death.
Italy: General, Aug. 8-19, 26 cases; Naples, Aug. 15-22, 5 cases, 2 deaths.
Mexico: Guadalajara, Aug. 12-19, 1 death; Mexico, July 10-17, 8 deaths.
Persia: Meshed-i-Ser, June 1-30, epidemic; Khorassan, epidemic; Kurdistan, epidemic.
Portugal: Lisbon, Aug. 7-14, 7 cases.
Russia: Moscow, July 24-Aug. 7, 32 cases, 18 deaths; Riga, July 24-31, 5 cases, Aug. 14-21, 1 case; St. Petersburg, July 24-31, 6 cases, 8 deaths.
Spain: Barcelona, Aug. 14-21, 6 deaths; Valencia, 12 cases.
Turkey: Smyrna, July 1-Aug. 6, 36 deaths.

YELLOW FEVER

Barbados: St. Joseph, Parish, Aug. 9-14, 1 case, 1 death.
Brazil: Bahia, July 23-Aug. 6, 3 cases, 2 deaths; Manaos, July 24-Aug. 7, 2 deaths; Para, July 31-Aug. 7, 2 cases, 2 deaths.
Ecuador: Guayaquil, July 23-Aug. 14, 8 deaths.
Mexico: Merida, Aug. 21-28, 4 cases, 2 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, July 18-24, 295 cases, 192 deaths.

CHOLERA

China: Amoy, July 24-31, 20 deaths.
India: Bombay, July 20-27, 25 deaths, Aug. 3-10, 39 deaths; Calcutta, July 24-31, 28 deaths; Rangoon, 5 deaths.
Indo-China: Saigon, July 17-24, 3 cases, 3 deaths.
Japan: Kobe, Sept. 13, present in vicinity, July 31, 1 case.
Netherlands: Breda, Aug. 31, present; Dordrecht, present; Gorinchem, present; Rotterdam, Aug. 20-30, 21 cases, 8 deaths; Uithorn, Aug. 31, present.
Sumatra: Djambi, July 18-24, present.

PLAGUE

Chile: Iquique, Aug. 10, 6 cases, in lazaretto.
China: Amoy, July 24-31, 52 deaths.
Ecuador: Guayaquil, July 24-Aug. 14, 9 deaths.
Formosa: July 17-24, 3 deaths.
India: General, July 24-31, 926 cases, 709 deaths; Bombay, July 20-27, 15 deaths, Aug. 3-10, 27 deaths; Calcutta, July 24-31, 18 deaths.
Indo-China: Saigon, July 17-31, 37 cases, 37 deaths.
Peru: General, Aug. 14-21, 19 cases, 9 deaths.

Society Proceedings

COMING MEETINGS

Amer. Academy of Ophth. and Oto-Laryngology, New York, Oct. 4-6.
Amer. Association of Railway Surgeons, Chicago, October 20-22.
Assn. of Military Surgeons of U. S., Washington, D. C., October 5-8.
Delaware State Medical Association, Dover, October 8.
Indiana State Medical Association, Terre Haute, October 7-8.
Kentucky State Medical Association, Louisville, October 19-21.
Minnesota State Medical Association, Winona, October 13-14.
Mississippi Valley Medical Association, St. Louis, October 12-14.
Pennsylvania, Med. Soc. of State of, Philadelphia, Sept. 27-Oct. 1.
South Dakota State Medical Association, Aberdeen, October 6-8.
Vermont State Medical Assn., White River Junction, Oct. 14-15.
Virginia, Medical Society of, Roanoke, October 5-8.
West Virginia State Medical Association, Elkins, October 6-8.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

Held at Budapest, Aug. 29-Sept. 4, 1909

(Continued from page 966)

The Treatment of Contracted Pelves

DR. VEIT, Halle, Saxony, urged that operative interference should only be undertaken when absolutely necessary, and that in all cases perforation of the living child must be avoided. In the highest grades of pelvic contraction Cesarean section should be performed. In pelves with a moderate degree of contraction, when danger existed to the life of the mother and the child was dead, perforation was the last thing to do. In similar cases with a living child forceps should be tried with care and only for a short time, and if they failed then Cesarean section should be resorted to. Hebosteotomy should only be done when fever and signs of septic infection were present. In cases in which the life of the child was threatened version should be attempted, and if this failed forceps should be applied and, as a last resort, Cesarean section. Whenever possible no operative interference at all should be carried out, but any one of these operations might be necessary in certain cases.

Myoma and Fertility

DR. A. MARTIN, Berlin, said that as a result of the great number of observed cases of pregnancy in myomatous uteri it was no longer possible to maintain the old opinion that myomata prevented intrauterine development of the ovum. Modern views as to the causes of sterility were also incompatible with this doctrine. The abundant hyperplasia of the ovaries in myoma was probably responsible, in the first place, for the remarkable fact that elderly women suffering from myoma and marrying late in life soon became pregnant, and, in the second place, for the delay in the occurrence of the climacteric in myomatous subjects. The observed cases of married women who conceived after removal of myomata, although they had previously been barren, were not sufficiently numerous to decide the question; there were, moreover, many associated conditions which could not be definitely ascertained.

Rapid Dilatation of the Cervix

DR. G. WINTER, Königsberg, Prussia: The ideal method of dilating the cervix must be one which involves no danger of excessive bleeding, of unavoidable lacerations of the cervix, or of the risk of infection, which will permit of the passage of a full-term child and of complete restoration of the functions of the cervix. Two methods are available—stretching or cutting of the tissues. The former can be carried out manually by means of a hydrostatic dilator, by a dilator such as that of Bossi, or by the body of the child. Manual dilatation possesses the advantage of requiring no special apparatus, but there is danger of slight tears of the cervix and of septic infection. Dilatation with a hydrostatic dilator guarantees complete dilatation and can be carried out aseptically; it possesses the disadvantage, however, of the likelihood of reclosure of the canal from elastic recoil. Bossi's dilator is a certain method and without danger when the cervix is unfolded, and entails but slight danger of infection. The risk of bad tears is considerable, however, and interference with the third stage of labor is not rare. Dilatation by means of the child's body

after version is a simple and certain method, but usually entails death of the child. Of the cutting operations, superficial incisions are of limited practicability. Vaginal Cesarean section is the easiest of all the methods of dilatation. Dührssen's method is best; with this procedure injuries of the neighboring structures are not infrequent and the maternal mortality is about 1 per cent. The child is usually delivered alive. Vaginal Cesarean section when practised early in eclampsia gives excellent results; in 20 cases the fits at once ceased after performance of the operation. In accidental hemorrhage, if immediate delivery is necessary, vaginal Cesarean section gives good results. In placenta prævia all methods of rapid dilatation are best avoided because of the risk of rupture of the cervix. In septic infection any method likely to produce tears of the cervix should not be practised. In cases in which death of the child is threatened only those operations should be performed which entail no risk to the life of the mother. Of general conditions, eclampsia, heart failure, impending suffocation from acute lung affections, and at times tumors of the genitalia, stenosis of the cervix, and impending death of the mother, are all indications for performance of vaginal Cesarean section, which is by far the best of the various methods available for rapid dilatation of the cervix, and for which eclampsia is the strongest and most important indication.

Recent Researches on the Hygienic Importance of Alcohol

PROF. T. LAITINEN, Helsingfors, Finland, summarized his conclusions under the four following heads: 1. The importance of alcohol as an article of food is rendered very questionable by recent researches. 2. These researches prove that alcohol diminishes the natural power of the tissues to resist injury, promotes degeneration, and has a disastrous effect on future generations. 3. The questions of relation of alcoholic liquor to crime and of the manufacture and sale of such beverages deserve the serious consideration of the legislature. 4. It is the duty of medical men to direct more attention than formerly to the alcohol question, and by careful study to decide whether recent researches are justified or not in regarding alcohol and alcoholic beverages as a poison and one of the principal causes of degeneration in the human family; they ought also to consider whether it would not be advisable in medical practice, and especially in hospitals, either to banish it altogether or at least to prescribe it with the same care as other poisonous drugs. In this matter the attitude taken up by medical men as representatives of public hygiene was of quite exceptional importance, and afforded an illustration of the passage in Homer, quoted by Bornstein, to the effect that one medical man was of more consequence than a number of other men.

The Sanitary Uses of Ozone

DR. GILBERT J. FOWLER, Manchester, England, discussed the application of ozone to the purification of water and air in the light of the most recent developments. The purification of water he considered in reference to: organic matter in solution and suspension; color, smell, taste; organisms—e.g., algæ, infusoria, bacteria; metallic impurities. He concluded that ozone treatment of water was to be recommended (a) when adequate sand filters were costly to erect and difficult of supervision; (b) when the amount of organic matter in solution in the water was limited; (c) when the pollution was mainly bacterial and of an intermittent character; and (d) when electrical power could be cheaply obtained. It must be understood, however, that some preliminary treatment for the removal of suspended matter, whether consisting of ordinary mud or algæ and infusoria, should always be provided. He referred to successful experiments on the purification by ozone of air polluted by human respiration, and to various miscellaneous applications. Finally, he said, a stage had now been reached when the use of ozone for sanitary purposes deserved the careful attention of those engaged in public health problems.

The Chronic Form of Pancreatitis

Mr. Mayo Robson, London, England, directed attention to chronic pancreatitis as a clinical entity, apart from gall-stone trouble, and he also described how frequently inflammatory enlargement of the pancreas accompanies cholelithiasis, especially if the concretions are in the common duct. He pointed out that chronic pancreatitis may persist long after the original cause has disappeared and may simulate cancer of the head of the pancreas, and so terminate fatally, the impression being that the condition is incurable, when as a matter of fact suitable surgical treatment is capable of curing it. His observations were based on a large series of cases in which he had operated, the first operation having been performed by him in June, 1890; this patient was in good health 14 years later, a second in 1891, and a third in 1892. In the latter case death occurred two days after operation and a microscopic examination of the pancreas showed the case to be one of interstitial pancreatitis. In 1895, he operated on two patients who were in good health several years later, and in 1896 on another who was well some time subsequently. In this year (1896), Riedel published a paper on inflammatory enlargement of the head of the pancreas in which he described two cases of pancreatitis (in the first of which operation was done in 1893) associated with malignant disease. Another paper appeared in the same year by the same author on cases caused by gall-stones. Mr. Mayo Robson described the symptoms, the pathologic condition, the causes and the treatment of chronic pancreatitis and showed that the anatomic variations in the relations of the common bile duct to the pancreas and in the termination of the ducts had an important bearing on the etiology of the condition. He urged the importance of preventive treatment such as the removal of gall-stones before they had produced complications, and the treatment of duodenal ulceration by gastroenterostomy. If, after a fair trial of general treatment, not too long continued, the symptoms persisted, and the signs of failure in pancreatic digestion and metabolism were manifesting themselves, the question of surgical treatment, he said, ought to be seriously considered, especially when the disease was associated with jaundice. Rational treatment should aim at the cause, whether that was gall-stones, pancreatic calculi, duodenal catarrh, duodenal ulcer, alcoholism, or syphilis. Even in the absence of obvious removable causes he advocated efficient drainage of the infected bile and pancreatic ducts, either by cholecystotomy or cholecystenterostomy, preferably the latter. His experience had taught him that if the cause can be removed at an early stage an absolute cure is possible; and though complete restoration of the damaged gland in more advanced cases cannot always be promised, yet an arrest of the morbid process may be looked for, and the remaining portion of the pancreas will be able to carry on the metabolic, and, even if completely, the digestive functions of the gland.

Arthrodesis

MR. R. JONES, Liverpool, England: The operation should never be performed on children under 8 years, not until all deformity has been corrected by wrench and tenotomy. It must not be performed if any hope exists of muscular recovery. It should be planned so as to avoid injury of the epiphysis and so that the bones lie in good apposition. Splints should be worn until consolidation is complete.

(To be continued)

INTERNATIONAL CONFERENCE ON LEPROSY

Held in Bergen, Norway, August 16-19, 1909

(From Our Special Correspondent)

The conference has been a great success, and it will be registered as one of the greatest efforts of medical science to stamp out a scourge which for centuries has afflicted humanity.

Description of Bergen

No better place for such an interesting meeting could have been selected than Bergen, a beautiful city, which is considered as a shining pearl which has risen from the sea. From all sides the city gazes out to sea from the mountain sides, from the headland and far in from the sheltered bays. Seven hills are in the background surrounding the city wall and covered with pines and mountain ash. Bergen is a city of a little over

80,000, and has enormous warehouses. Steamships leave every day in different directions carrying large quantities of merchandise, fish, hides, etc. The inhabitants are so exceedingly kind and courteous that every foreigner must admire their high degree of refinement.

Meeting Place

The congress met in the magnificent building, "*Den gode Hensigt*." Everything possible was done for the comfort of the members of the conference. The bureau of registration, post-office and information department were in one large room. The hall, a spacious and magnificent one, with a stage and pulpit for speakers, was magnificently decorated with palms and the flags of every nation represented to the conference. A gallery was reserved for ladies and guests where they could hear the reading of the papers and the discussion.

Reason for Selecting Bergen as Place of Meeting

Bergen was selected as the seat of the conference because the city has done much in the investigation of leprosy to deserve this distinction. In the thirteenth century in Europe were many hospitals for leprosy, which were supported by the churches and managed by charitable monks; such a hospital was known as the "House of Lazarus."

History of Leprosy in Norway

Leprosy was introduced in Norway, very likely, by the Vikings in their peregrinations, coming back from the coasts of Ireland, England, Iceland. At any rate, in the year 1000 leprosy is mentioned in the laws of Norway, which exempted leprous people from doing service in war. The first hospital for the disease in Norway was built in Bergen, in the thirteenth century. It was called the Hospital of St. Katherina; later it was changed to a general hospital. In 1410 was founded St. Jorgen's Hospital for Leprosy, which in 1702 burned down and in the same year was rebuilt as it is at the present time. Small hospitals for leprosy were established in the eastern parts of the country; the more important being those of Trondhjem, Bergen and Molde. The disease recently has decreased considerably in Norway and most of these hospitals have been discontinued or have been changed to general hospitals. Originally these hospitals were a matter of charity. There was no knowledge of the disease and no effort for a rational treatment. Scientific investigations began only in the nineteenth century. The first name to be mentioned is that of D. C. Danielsen and C. W. Boek, who in 1847, published a book on leprosy, which became of the greatest importance and opened a new era in the history of medicine. The theories advanced in this book have become the foundation of the treatment and of the prophylaxis of contagious diseases. Although the two-mentioned authors did not know the micro-organism, which is the cause of leprosy, yet they opened the way for the explanation of the essence of this disease. It was but natural that the scientific work was continued by another man from Bergen, G. Armauer Hansen, who in 1872 discovered the *Bacillus lepræ*, giving to the world the true cause and the treatment of the disease.

Opening of the Congress

Monday morning, August 16, the congress was formally opened by the King of Norway, who made a brief address in French.

President's Address

Dr. G. A. Hansen referred to the ravages of leprosy in the middle ages, and to the present condition as it is found to-day:

The first conference on leprosy was called in 1897 on account of the dreaded scourge making its way into Germany from Russia. From that time we have still to know how far the disease has extended and how dangerous is yet its spreading. Such an old and deep-rooted disease that develops in such an obscure manner cannot be stamped out in one day. The conference has before it a work, which extends over the history of humanity. Norway has invited scientists to attend this conference for several reasons. In the first place, Norway, together with some other countries, has the doubtful honor of still having leprosy in its hospitals, but this has been the cause of careful and scientific investigations of the disease by Danielsen and Boek, and on account of the studies of these two scientists, Norway has taken decided public measures against the disease. The entire study and development of these prophylactic measures have been continued until we have obtained most satisfactory results. We are glad for that which we have contributed for this international work of combating leprosy. In spite of all this diligent study, there are yet many unsolved problems opened for discussion. Many of these points of disagreement will be treated here, as, for instance, the mode of dissemination of the disease, hereditary transmission, etc. Many obscure points are connected with the symptomatology: For instance, we do not yet know the first symptoms of the disease; the relation of leprosy to syringomyelia, etc. The result of treatment is a matter of the greatest importance.

The Reports of Delegates

The delegates representing the various nations were represented by Professor Kirchner, delegate from Germany.

The following-named countries sent official delegates: Argentine Republic, Belgium, Bulgaria, China, Cuba, Denmark, Great Britain, France, Holland, Italy, Japan, Portugal, Russia, Spain, Sweden, Germany, Egypt, Austria-Hungary and the United States of America. Besides these, there were many representatives of institutions of learning and others who attended in a private capacity.

Following the opening of the conference, certain official delegates presented their reports on the status of leprosy and the measures adopted against it in the countries they represented. Such reports were made from the following countries: Germany, France, Russia, Austria-Hungary, Italy, Japan, Belgium, United States of America and Argentine Republic.

Dr. V. Petersen, St. Petersburg, spoke of the isolation leprosy colony established by the Russian government. Since the establishment of this colony, the cases of leprosy in Russia have somewhat diminished. Private establishments cannot fight this disease successfully and it is the duty of the government to stamp out this scourge. The leprosarium has to be a true colony where the lepers can find occupation and at the same time they must be treated. Special care has to be given to the children of lepers, who have to be taken in a special institution, separated from the colony.

Dr. Kobler, Sarayevo, Bosnia, spoke of the condition of the leper in Bosnia and Herzegovina; since 1897 the disease has constantly diminished, so much so, that now entire districts which used to be infected with lepers are entirely free. This he attributed to the enforced hygienical rules, to the increased instruction of these populations, to the bettered sanitary conditions and to the better class of physicians who are now practising in those regions.

Dr. Bordoni Uffreduzi of Italy spoke of the conditions of the leper in Italy; Professor Babes of Bucharest spoke of the actual condition of the leper in Roumania; Dohi of Tokyo gave a summary of conditions in Japan; Dubois-Havenith of Brussels told of leprosy in the Belgian Congo, and Sommer of Buenos Aires spoke for Argentina.

Dr. Brinckerhoff of U. S. Public Health and Marine-Hospital Service spoke of the status of leprosy in the United States and its dependencies and the measures now being taken by the government for the study and prevention of the disease.

Dr. Raynaud of Algeria referred to the conditions in Algeria, where there are now 109 cases of leprosy—39 natives and 70 Europeans, 62 being Spaniards from the provinces of Alicante and Valencia. He found leprosy very rare among the Arabs, but the greatest danger is from foreign importation. As a consequence, they have adopted the following rules: centralization of all information concerning lepers, sanitary surveillance of them and frequent disinfection. Lepers are not allowed to land in the country, and when discovered are sent back to the place from which they came. The lepers of the country have to be confined in hospitals at the expense of the state. Lepers who are apparently well are not allowed to be milkmen, bakers, grocers, etc.

(*To be continued*)

MICHIGAN STATE MEDICAL SOCIETY

Forty-Fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

The President, DR. A. I. LAWBAUGH, Calumet, in the chair.

Addresses of Welcome

Mr. Fitzgerald welcomed the society on behalf of the city, and Dr. A. I. Noble, superintendent of the Michigan Asylum, spoke on behalf of the medical profession.

Resolutions of Confidence in Dr. Cook

Resolutions were adopted unanimously extending to Dr. Frederick A. Cook the heartiest congratulations of the society on his dignified bearing in a trying situation and expressing confidence that Dr. Cook had attained the much-coveted goal, and believing that additional luster and honor would come to him as the details of his tremendous achievement shall be better made known to the public.

Officers Elected

The following officers were elected for the ensuing year: President, Dr. J. H. Carstens, Detroit; first vice-president, Dr. V. Tupper, Bay City; second vice-president, Dr. E. H. Webster, Sault Ste. Marie; third vice-president, Dr. J. F. Breakey, Ann Arbor; fourth vice-president, Dr. E. M. Eccles, Blissfield; secretary, B. R. Schenck, Detroit (reelected); treasurer, Dr. W. S. Anderson, Detroit. Bay City was selected as the place for holding the next annual meeting.

President's Address: The Physician, His Duties and Relations to the Profession and the Public

DR. A. I. LAWBAUGH, Calumet, said in part:

With the passing of the ages there developed the physician, the man set apart for the healing and cure of the ills of the flesh, devoting his life to the battle against disease, either in the treatment of the sick individual or in the combating of epidemics. He goes further than this. He is not satisfied merely with fighting existent disease in the patient or in the community; he looks to the prevention of future ills by outlining broad plans for the conservation of human life and energy, by educating and inspiring the public to the enactment of pure food laws, the protection of water supplies, the extermination of parasites and disease-bearing insects, the conquest of the tropics, the regulation of child labor, the protection of sex relations, the fight against tuberculosis and the venereal diseases, and the enforcement of general hygienic measures.

The modern physician must know life in all its phases; he must have the knowledge of the main springs of human action. He cannot content himself with a knowledge of anatomy, a little pathology, more symptomatology and still more materia medica and surgery. To fulfill his function, to be of best use to the community, he must possess a knowledge of all things that may benefit the community, aside from the mere matter of treating sick individuals. He must lead men to right living, because it is the way to long life and health. He must have the knowledge of human nature as revealed in history and the world's great literature. He must know psychology, sociology and political economy and he must be a past-master in the province of hygiene and sanitation. He must be able to understand the spiritual requirements of his clients, and in this way to offset their inclination to turn to false gods, such as Christian science, the Emmanuel movement, and other forms of so-called mind cure.

For medical men to be of the greatest value, not only to the profession, but to the community at large, there must be organization and cooperation as manifested in organization cannot be too strongly emphasized. The first and chief essential in the organization of a medical society is the laying of the cornerstone of unity and friendship. In the great movements affecting the nation as a whole, the physicians may find a proper field of action. Already, through the united stand and efforts of the profession, as exemplified in the acts of the American Medical Association, much useful and judicious legislation has been put in force by both federal and state legislative bodies. The physician has come also to be a maker of laws. In all matters concerning the physical health of the nation, his expert knowledge and specialized training becomes necessary to the proper and intelligent framing of health laws and their enforcement. In municipal affairs, the physician must also take his part as a citizen on whom certain peculiar responsibility rests. The public must be taught the value of hospitals in the restriction of disease. The conquest of disease depends on the education of the public, and the most important question of the day is that concerning the best method of inculcating such education; aside from the instruction of children in the public schools, the press is beyond doubt an invaluable avenue of education through which the lay public may be reached.

Stomach Lavage

DR. CHARLES D. AARON, Detroit: Lavage of the stomach seems to be the best means for modifying and counteracting functional changes; but only when it is learned that the mechanical function plays the principal rôle in digestion, can the indications for irrigation be more precisely determined. Experience has taught the great usefulness of lavage in most cases of intoxication and autointoxication. It is of benefit in the vomiting of patients suffering from uremia and eclampsia and in urinary intoxications generally. I have used the stomach tube for diagnostic purposes in old people without feeling uneasy about the theoretical contraindication enumerated with much detail in the text-books; but in each case I have given due weight to the question of whether or not the procedure was one of absolute necessity. Autolavage is a form of stomach irrigation, which has been called physiologic, in order to distinguish it from the kind spoken of; for here the use of the stomach tube is not necessary. It is sufficient that the patient drink from four to eight ounces of the irrigation fluid and then lie down on his abdomen, supported on a somewhat hard resisting surface across the bed, or on the floor. In this position let him breathe as deeply as possible. From fifteen to twenty deep respirations are sufficient to drive the contents of the stomach through the pylorus. This procedure may be repeated as often as necessary. Autolavage may be applied two or three hours after a light breakfast, four or five hours after the midday meal or evening meal, and sometimes also in the morning before breakfast. In this way the stomach will be effectively cleansed after each period of digestive work.

DISCUSSION

DR. E. L. EGGLESTON, Battle Creek: I think in the experience of all of us there is a time when it is easier to use a stomach tube than to study the case, make a proper diagnosis, and outline the proper system of therapeutics. A few years ago most of my patients with gastric disorders needed lavage frequently. To-day I seldom use it except to aid in making a diagnosis. There are a number of conditions in which it is of value, but its indiscriminate use is unfortunate. A certain number of patients will come to us in which there is a question as to whether the condition is surgical or not. I have seen a number of patients in whom there has been an ulcer at the pylorus which had healed, left a cicatrix which mechanically interfered with the emptying of the stomach, and those individuals have been carried along for months on lavage, gradually losing weight, being so reduced at the time of operation that it was impossible for them to recover after operation. This is unfortunate. There are a number of conditions in which there is an atonic condition of the stomach secondary to the general disorder, but in which gastric lavage, while it may not be curative in itself, is certainly a necessary proceeding. I have not been successful with autolavage, because in a certain number of neurotic individuals I have been afraid to institute it. I have found that a great many such patients have practised some sort of autolavage greatly to their detriment, as they had become so fearful of continued distress after each meal, that they would empty the stomach, in this way greatly interfering with nutrition. A patient with an atonic condition of the stomach, who is not able to eat more than two meals a day, at bedtime will have several ounces of undigested material in the stomach. Such a patient will have a restless night. During the night the changes which have taken place in the food have been such that a certain amount of poisoning results. The patient's rest has been greatly disturbed, and in the morning there is an unsatisfactory condition. In these cases I have always made it a rule to relieve

the stomach of its contents previous to the patient retiring; this is more beneficial than to leave the material in the stomach until morning. Another point which has guided me somewhat in the use of lavage is nausea. This paper has strengthened my belief in the fact that the lavage tube has been used too frequently, and, aside from its use as a means of diagnosis, I believe it will be used less frequently in the future.

DR. FRANK SMITHIES, Ann Arbor: I cannot agree with Dr. Aaron as to the quantity of material used for the lavage. From a somewhat extensive experience in washing out stomachs, I have come to the conclusion that large quantities of water may be used, if such quantities of water are regulated at the time of entrance into the stomach. This is done by means of the common-glass irrigator, marked off in liters, half-liters or quarts, as the case may be. Large quantities are frequently necessary, provided they are removed, and the stomach is not tested to its limit. It has been a common experience of people who have washed their stomachs that small quantities of liquid introduced into the stomach frequently empty the stomach only partially, as in the case of hour-glass stomach. It is only at the end of lavage, and with large quantities of solution, that it is possible to wash out the material from the second chamber, as it were, and send the patient home with a comparatively clean stomach. Again, in cases of marked dilatation, with retention, whether the retention is due to a new growth or to a stricture of the pylorus, by the use of small quantities of lavage liquid one only washes the top off. The most important part of lavage is the end lavage, because frequently retained contents, such as mucus, are obtained, and frequently tissue bits and things which are important bacteriologically and otherwise. The whole question of gastric lavage as a therapeutic measure rests on diagnosis. I have not found autolavage successful.

DR. B. A. SHEPARD, Plainwell: I want to emphasize the point brought out with regard to the use of the stomach pump in neurotic cases. It is sometimes amusing to see the mental effect of leaving a stomach pump in the room. I have known of several patients who had had excessive vomiting for several weeks having been cured simply by the physician exhibiting the stomach pump in the sick-room; or by washing out the stomach of neurotics when the stomach was involved. Autolavage is important. Its effects are the stimulation of the musculature of the stomach forcing the contents into the bowel.

DR. JOHANN FLINTERMAN, Detroit: Many cases of dilatation of the stomach after surgical operations can be relieved by lavage. I have applied it in cases of ileum, in which there was fecal vomiting, and in which after the application of the stomach tube relief was afforded. Again, the symptoms of strangulation in cases of hernia are sometimes relieved by lavage. It is a valuable remedy in actual dilatation of the stomach, as well as in cases of strangulated hernia or intestinal incarceration, or obstruction in which operation is sometimes refused.

DR. CHARLES D. AARON, Detroit: If a patient who has stenosis of the pylorus is not improving, but constantly losing weight, is not turned over to a surgeon for operation we are likely to lose him. I cannot agree with Dr. Smithies in the use of large quantities of water in cases of dilatation of the stomach; I do not think it necessary to use large quantities of water at any time. In a case of dilatation one will usually find a pint or more of fluid in the stomach to begin with, and it is necessary to remove the liquid contents from the stomach, and to use from 6 to 8 ounces of water at a time, which will be found sufficient. That obtains also in cases before operation. It is certainly harmful to put water into the stomach, overdistend the musculature and expect Nature to contract the muscle perfectly, or at the time one wishes to feed the patient again. Dr. Flinterman's remarks on acute dilatation are well taken. It is the only method we have of bringing about recovery in cases of acute dilatation of the stomach following operations, but even then there is a transudation of the liquid elements of the blood into the stomach, and it is necessary at first to remove the liquid in the stomach, and then add small quantities and wash it out.

(To be continued)

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-second Annual Meeting, held at Council Bluffs, Iowa, Sept. 9-10, 1909

The president, DR. C. B. HARDIN, Kansas City, Mo. in the chair.

Officers Elected

The following officers were elected for the ensuing year: President, Dr. A. B. Somers, Omaha, Nebr.; first vice-president, Dr. C. R. Woodson, St. Joseph, Mo.; second vice-president, Dr. Flavel B. Tiffany, Kansas City, Mo.; secretary, Dr. Charles Wood Fassett, St. Joseph, Mo., re-elected; treasurer, Dr. T. B. Lacey, Council Bluffs, Iowa, re-elected.

Omaha, Nebr., was selected as the place for holding the semiannual meeting in March, 1910.

Dr. Hardin in his presidential address, offered suggestions with reference to the future conduct and improvement of the society.

Diagnosis and Treatment of Gastric Ulcer with Especial Reference to the Lenhartz Diet

DR. LEROY CRUMMER, Omaha: We can claim the following advantages for the Lenhartz treatment: First, it is more comfortable for the patient. Second, there is less loss of weight and nutrition. Third, the period of return to normal diet is shorter. Fourth, the tendency to relapse is less. Till the last few years, the treatment has always been medical, but recently surgical treatment has slipped into the foreground to a great extent. The most conservative surgeons have generally advised operation only after medical means have failed, but that even these restrictions are not enough is now recognized. I have had the opportunity to carry out the Lenhartz treatment in eight cases of gastric ulcer, five of which were comparatively simple cases, and the treatment was successful without modifying any of the details. One patient went through the treatment with seeming complete success and left the hospital greatly improved in weight and strength, but died suddenly one month later with some acute abdominal trouble, probably perforative peritonitis. The other two patients, in addition to the clear ulcer condition, presented severe anemia and signs of pyloric obstruction. For the results of pyloric ulcer, surgical treatment is often demanded, and in general the opinion has been that operation is indicated in: First, chronic ulcer *per se;* second, acute hemorrhage; third, perforation; fourth, pyloric stenosis. The statement is often made that when medical treatment fails in chronic ulcer, a gastroenterostomy or other operation should be done. This indication, I think, should be revised and stated as follows: No operation should be done in chronic ulcer till the patient has had the benefit of a careful trial with the Lenhartz treatment.

DISCUSSION

DR. JOHN P. LORD, Omaha: I recall several cases of gastric ulcer in men who are now doing well without having undergone surgical intervention. I speak of this to emphasize the success which attends the expectant treatment of these cases. However, when an operation is indicated in gastric ulcer, it should be performed.

DR. W B. DEFFENBAUGH, St. Joseph Mo.: In the medical treatment of gastric ulcer it is important to prescribe a diet which is free from irritating material. The average diet contains many things that are imperfectly masticated; they pass over the inflamed area, or through the pylorus, and keep up a mechanical disturbance.

DR. R. C. MOORE, Omaha: In my experience, comparatively few cases present the classical symptoms of gastric ulcer, but when we have one of these cases, diet is the main thing to consider. I do not resort to feeding by the rectum. I keep the patient as quiet as possible, maintain the action of the different secretory organs as best I can and place the patient on such food as can be digested. Milk should be the main article of diet. When the case takes on a surgical aspect, operation should be considered, and performed if necessary.

DR. W. L. ROSS, Omaha: Gastric troubles are functional and not organic, and we should not be in too great haste in saying that this or that patient has ulcer of the stomach,

simply because he or she complains of pain. The whole symptomatology should be gone over in order to determine whether the cause is really located in the stomach or not.

Splenectomy

DR. W. B. DEFFENBAUGH, St. Joseph, reported a case of traumatic rupture of the spleen, in which he resorted to splenectomy, with a successful result.

DISCUSSION

DR. I. U. PARSONS, Malvern, Iowa: Several years ago a boy ten years old fell across a wash-tub, striking himself in the region of the spleen. Several physicians saw the child, but were unable to make a correct diagnosis. Two months after the injury a tumor developed in that region. The abdomen was opened, and a large cyst of the spleen was found and drained. The boy recovered.

DR. A. C. STOKES, Omaha: The spleen, according to German authority, has a physiologic function. It has to do with infections in the production of immunity, or the swallowing up of infections. This is illustrated by the fact that so many patients who have had infectious diseases have enlargement of the spleen. Embryologically, and from the standpoint of comparative anatomy, the spleen seems to be more of a remnant than anything else, for in animals it is much larger in comparison with the body-weight than it is in man. The blood supply seems to be about the same.

Cancer: A Constitutional Disease; Its Rational Treatment

DR. JOHN E. SUMMERS, Omaha, delivered the address on Surgery, selecting this subject. He referred to recent investigations concerning the medical and surgical treatment in cases of cancer of the genitalia, etc., and said:

Technic. First, curette thoroughly and dry carefully, then pour one-half ounce of acetone through a Ferguson speculum (with patient in the Trendelenburg position). Leave this in for fifteen or twenty minutes, then let the acetone run out and pack the cavity with gauze soaked in acetone. Wash the vulva and vagina; insert tampon. In rectal cancer, follow a like practice only first introduce tampon above growth before using acetone. Repeat the use of acetone two or three times a week in office practice. Protect the vulva with vaselin. By this treatment, the oozing is checked, and the wound surface is covered with a thin white film. The odor is remarkably reduced. The discharge is at first watery and then disappears. The wound shrinks and tends to heal. The health improves. The opsonic index is raised.

Acetone bisulphite is a white powder which, dissolving in the wound, gives off pure acetone, and may be used in place of acetone; its method of application is after the same fashion. Besides escharotics, the *x*-ray and radium, which, when the cancer or sarcoma can be reached tend to destroy or inhibit its growth, there are certain drugs of great value in the internal treatment of cancer. They are mostly of the alterative type, and usually are best given hypodermically. Certain preparations of arsenic, mercury and iron are to be commended. Iodin, I have not found so useful, but it has its friends. Having noted the fact that cancer never begins primarily in bone, that sarcomas in which the bone element predominates are least malignant, it occurred to me that if, in any way, I could increase or overload the blood with lime, it would be a rational therapeutic measure in the treatment of malignant disease as a postoperative measure of prophylaxis and as a remedial agent in conjunction with the hypodermic use of alteratives. So far, I have reason to believe there is value in the remedy—so much do I think so, that I hope my friends will try it. I use the lactate of calcium given, to begin with, in a hypodermoclysis, from 30 grains to 1 dram in a pint of warm sterile water; later I continue the drug in doses of from 10 to 30 grains given by the stomach in hot water, thrice daily; it may be continued indefinitely, but at the beginning is apt to cause nausea. Thirty grains of the lactate in a pint of warm water may be given directly into a vein. In a bad hopeless case of cancer of the throat I found that this drug materially lessened the pain.

(*To be continued*)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

An Official Tri-State Journal

An experiment in medical society journal publication has been inaugurated by the state medical associations of Oregon, Washington and Idaho, a composite board representing the three associations having taken over the publication of *Northwest Medicine*. The first number issued by the new management has recently appeared. As this is the first journal to be published by a combination of state associations, its progress will be watched with interest. If the experiment is successful (and from the appearance of the first number there is no reason why it should not be) a solution will have been found of the problem of providing official medical journals, owned and published by physicians, for the smaller state associations which are not able on account of lack of numbers to publish separate journals of their own.

This number of *Northwest Medicine* is well prepared and printed and the size (12x8½) is commendable, the larger pages and wider columns being much more attractive both to the reader and the advertiser. The leading article on "The Relations of the Internal Secretions to Surgical Conditions," by Dr. Roswell Park of Buffalo, is the oration on surgery read before the joint meeting of the medical associations of the three states recently held at Seattle. Addresses by Dr. C. J. Fagan, president of the British Columbia Medical Association, Dr. J. L. Stewart, president of the Idaho State Medical Association, and Dr. Clarence A. Smith, president of the Washington State Medical Association, together with a well illustrated contribution on "The Complement Deviation Test in Syphilis," by Dr. Ralph C. Matson, of Portland, completes the original matter in the first issue. Half-tone portraits of the newly-elected presidents of the state associations, five pages of editorials, with the transactions of the house of delegates, news items and book reviews, complete the matter in the first number.

International Conference on Vital Statistics

The International Commission for the Revision of the Classification of Diseases and Causes of Death met at Paris, July 1 to 3. In order that the United States might be properly represented, a section was added to the act appropriating funds for the thirteenth U. S. census, authorizing the director of the census to appoint three commissioners with the standing of special agents of the government, one of whom was to be chosen from the United States Census Office, one from the medical profession, and one from the organized registration officials of the United States. Twenty-five hundred dollars was appropriated to defray their expenses. In accordance with this law, Hon. E. Dana Durand, Director of the Census, appointed Dr. Cressy L. Wilbur, chief statistician for vital statistics of the Census Bureau; Dr. Frank P. Foster, chairman of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; and Dr. Wilmer R. Batt, of Pennsylvania, chairman of the Committee on Classification of Causes of Death of the Section on Vital Statistics of the American Public Health Association. Unfortunately, Dr. Foster, who was appointed to represent the medical profession, was unable to attend the conference. Drs. Wilbur and Batt were present, also Dr. Frank L. Pleadwell, U. S. N., Dr. H. D. Geddings, Asst. Surgeon-General U. S. P. H. and M.-H. S., Prof. Walter F. Willcox of Cornell University, and Dr. William H. Guilfoy, registrar of records of the City of New York.

The commission met July 1 to 3 in the Ministry of the Interior. Twenty-three countries were represented. The utmost harmony was manifested, the desire being to subordinate the individual views of the delegates to the general good. A number of recommendations presented by the American delegates were approved, especially one providing for a reclassification of deaths from violent causes.

The proceedings of the commission, as well as the revised nomenclature, is now being printed, it being anticipated that

a revised version will be available for the use of officials in compiling the decennial Federal census for 1910. An official version is to be prepared in the language of each country represented, the English translation being in the hands of Dr. Wilbur and Dr. G. W. Knibbs, statistician for Australia. In recognition of the work of the American delegates, Dr. Wilbur was made vice-president of the international commission and presided over one of the sessions.

On July 4, the delegates were received by the President of France, the week following they also participated in the session of the International Statistical Institute. The next session of the commission will be held under the auspices of the French government unless, in view of the great progress of American vital statistics in the past decade and the important rôle played in revision by the American delegates, it is possible to arrange for the meeting of the third decennial conference at Washington.

In the absence of Dr. Frank P. Foster, the following resolutions were adopted by the American representatives:

Resolved, That the official delegates of the United States to the Second Decennial Revision of the International Classification of Causes of Death desire to express their sincere regret that Dr. Frank P. Foster, chairman of the Committee on Nomenclature of the American Medical Association, was unable to be personally present during the session of the commission at Paris, July 1-3, 1909, and their high sense of appreciation of the services rendered by his and associated committees in the preliminary suggestions,[1] which have so greatly facilitated the work of the American delegates.

F. L. Pleadwell,
Wilmer R. Batt,
H. D. Geddings,
Wm. H. Guilfoy,
Walter F. Willcox,
Cressy L. Wilbur.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

First Month—Fourth Weekly Meeting

DISEASES OF CEREBRAL VEINS AND SINUSES

PRIMARY, MARANTIC, THROMBOSIS: Etiology.—Age, prolonged illness, cachexiæ. Symptoms.—Preceding disease, venous stasis, local edema, mental symptoms.

SECONDARY, INFECTIVE, THROMBOSIS: Etiology.—Middle-ear disease, fractures, infections in nose, mouth and pharynx, erysipelas, anthrax. Symptoms.—Preceding infection, local symptoms, brain symptoms, septicemia.

CEREBRAL PALSIES OF CHILDREN

ETIOLOGY: (a) Prenatal conditions, lack of development, prematurity, porencephalia; (b) accidents at birth, protracted labors, vertex and breech presentations, abuse of forceps; (c) postnatal causes, age, infectious diseases, injuries.

SYMPTOMS: Hemiplegic cases. Sudden onset, convulsions, loss of consciousness, development of hemiplegia, spasticity, exaggerated reflexes, contractures, attitude and gait. Atrophy of affected side. Athetosis. Tendency to epilepsy. Diplegic cases, may be paraplegic. Usually of prenatal or birth origin. Slow development of cranium, convulsive seizures, rigidity and contractions, upper and lower limbs involved. Lack of mental development, tendency to epilepsy and idiocy.

MONTHLY MEETING

Varieties of Aphasia and Significance of Each.

The Localization of the Lesion in Intracerebral Hemorrhage.

Early Diagnosis and Treatment of Cerebral Palsies of Children.

1. Those who desire to read the report presented to the American Medical Association by its Committee on Nomenclature and Classification of Diseases, of which Dr. Foster was chairman, will find it in THE JOURNAL, June 19, 1909, page 2058.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phœnix, October 4-5. Sec., Dr. Ancil Martin.
COLORADO: Capitol, Denver, October 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.
GEORGIA: Regular, Capitol Bldg., Atlanta, October 12. Sec., Dr. E. R. Anthony, Griffin. Homeopathic: Atlanta, October 4. Sec., Dr. R. E. Hinman, 153 Whitehall St.
IDAHO: Boise, October 5-6. Sec., Dr. W. F. Howard, Pocatello.
ILLINOIS: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
KANSAS: Topeka, October 12. Sec., Dr. F. P. Hatfield, Olathe.
LOUISIANA: New Orleans, October 1-2. Sec., Dr. Felix A. Larue, 211 Camp St.
MICHIGAN: Lansing, October 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MINNESOTA: State University, October 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.
MISSISSIPPI: Jackson, October 12. Sec., Dr. S. H. McLean.
MONTANA: Capitol, Helena, October 5. Sec., Dr. W. C. Riddell.
NEW JERSEY: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
NEW MEXICO: Santa Fe, October 11-12. Sec., Dr. J. A. Massie.
NORTH DAKOTA: Grand Forks, Oct. 5-7. Sec., Dr. H. M. Wheeler.
OKLAHOMA: Ione Hotel, Guthrie, October 13. Sec., Dr. Frank P. Davis, Enid.
RHODE ISLAND: Room 313, State House, Providence, October 7-8. Sec., Dr. Gardner T. Swarts.
UTAH: Room 207, City and County Bldg., Salt Lake City, October 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.
WYOMING: Laramie, October 20-22. Sec., Dr. S. B. Miller.

Illinois April and May Reports

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examinations held at Chicago, April 15-17, and at East St. Louis, May, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75.

At the examination held in April, the total number of candidates examined was 126, of whom 111 passed, 12 failed and 1 withdrew. Two candidates did not complete the examination. The following colleges were represented:

College.	Year Grad.	Total No. Exam'd.
PASSED		
George Washington University	(1908)	1
Bennett Medical College	(1909)	2
Chicago College of Medicine and Surgery	(1909)	33
Illinois Medical College	(1905) (1908) (2, 1909)	4
National Medical University, Chicago	(1906)	1
Northwestern Univ. Med. School	(1901) (1908) (10, 1909)	12
Coll. of Phys. and Surg., Chicago	(1905) (1908) (27, 1909)	29
Rush Medical College	(1909)	19
Jenner Medical College	(1909)	2
Medical College of Indiana	(1898)	1
Johns Hopkins University	(1906)	1
Tulane University of Louisiana	(1899)	1
St. Louis College of Physicians and Surgeons	(1908)	1
Jefferson Medical College	(1892) (1908)	2
University of Pennsylvania	(1908)	1
Trinity Medical College, Toronto, Canada	(1903)	1
FAILED		
Hahnemann Medical College and Hospital	(1884)	1
College of Med. and Surg., Physiomedical, Chicago	(1908)	1*
Illinois Medical College	(1908)* (1909)	2
National Medical University, Chicago	(1907)	1*
College of Physicians and Surgeons, Chicago	(1901)	1
Keokuk Med. College, Coll. of Phys. and Surg.	(1908)	1
Hospital College of Medicine, Louisville	(1904)	1†
Barnes Medical College	(1908)	1*
St. Louis College of Physicians and Surgeons	(1906)	1†
Meharry Medical College	(1907)	1*
Queen's University, Kingston, Ontario	(1886)	1

At the examination held in May, the total number of candidates examined was 133, of whom 115 passed and 18 failed. The following colleges were represented:

College.	Year Grad.	Total No. Exam'd.
PASSED		
Hahnemann Med. College and Hospital, Chicago	(1909)	1
College of Physicians and Surgeons, Chicago	(1909)	1
Northwestern University Medical School	(1909)	2
University of Louisville	(1909)	1
Barnes Medical College	(1909)	25
Homeopathic Medical College of Missouri	(1909)	1
St. Louis University	(1909)	28
St. Louis College of Physicians and Surgeons	(1909)	24
University of Missouri	(1909)	1
Washington University, St. Louis	(1909)	28
Eclectic Medical Institute, Cincinnati	(1909)	1
University of Nashville	(1909)	1
University of Toronto, Ontario	(1905)	1
FAILED		
Barnes Medical College	(1908)* (4, 1909)	5
St. Louis College of Physicians and Surgeons	(1906)† (1908)* (1908)† (9, 1909)	12
Washington University, St. Louis	(1909)	1

* Third examination.
† Second examination.

Rhode Island July Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 1-2, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 8, of whom 7 passed and 1 failed. The following colleges were represented:

College	Year Grad.		Per Cent.
PASSED			
University of Maryland	(1909)		83.
Baltimore Medical College	(1908)	80,	80.3
College of Physicians and Surgeons Baltimore	(1908)		93.1
Boston University	(1909)		89.4
Cornell University Medical College	(1909)		90.1
Jefferson Medical College	(1909)		80.8
FAILED			
Baltimore Medical College	(1907)		74.7

Marriages

RUTH VAIL, M.D., and Albert Taylor Snow, both of Chicago, September 7.

HERMAN J. DERGER, M.D., to Miss Margaret Ziegler, at Baltimore, September 7.

RALPH TOUSEY, M.D., to Miss Clara S. Briner, both of New York City, September 7.

HENRY C. WATT, M.D., to Miss Marjorie Palmer, both of Colorado Springs, September 14.

WILLIAM HOPE SMITH, M.D., U. S. Army, to Miss Helen Davidson, at San Francisco, August 3.

ROSWELL C. SARTELL, M.D., Eldred, Pa., to Miss Jeannette M. Lockard, of Philadelphia, April 21.

WILLIAM VINCENT PASCUAL, M.D., Brooklyn, to Miss Beatrice Roche, of Deal, N. J., September 10.

CHARLES EDWARD CONDUFF, M.D., to Miss Annie Childress, both of Riner, Va., at Bristol, Tenn., September 11.

VICTOR MACKAY DALY, M.D., to Miss Violette Berry Helm, both of Pontiac, Ill., at St. Paul, Minn., September 8.

BYRON G. R. WILLIAMS, M.D., Paris, Ill., to Miss Margaret Elizabeth Mahoney, of Lexington, Ky., September 8.

FRANCIS ALPHONSO MANTZ, M.D., Philadelphia, to Miss Martha Mabel Yule, of Owen Sound, Ont., September 9.

PAUL S. MORRISON, M.D., Rushville, Mo., to Miss Bertha Chapman, of St. Joseph, Mo., at Atchison, Kan., August 25.

SAMUEL SAYRE RODMAN, M.D., U. S. Navy, to Miss Marjorie Drayton Memminger, at Flat Rock, N. C., August 27.

WILLIAM T. OWEN, M.D., Clarksburg, W. Va., to Miss Nellie Virginia Martin, of Bridgeport, W. Va., at Parkersburg, W. Va., September 4.

Deaths

Bernard Douglas Eastman, M.D. College of Physicians and Surgeons, New York City, 1862; a member of the Kansas Medical Society and the American Medico-Psychological Association; founder of the New England Psychological Society; from 1862 to 1865 assistant at the New Hampshire Hospital for the Insane, Concord; from 1865 to 1872, assistant physician at the Government Hospital for the Insane, Washington, D. C.; from 1872 to 1879, superintendent of the Worcester (Mass.) Lunatic Hospital, Lake Quinsigamond; for seventeen years superintendent of the Topeka State Hospital; professor of materia medica and therapeutics, and psychiatry in Kansas Medical College; an authority on insanity and the building and management of hospitals for the insane; died at his home in Topeka, September 11, from heart disease, aged 73.

William Thayer Smith, M.D. Dartmouth Medical School, Hanover, N. H., 1878; New York University, New York City, 1879; LL.D. Dartmouth, 1897; a member of the American Medical Association, American Academy of Medicine and American Association for the Advancement of Science; dean, professor emeritus of physiology and professor of clinical surgery in Dartmouth Medical School; surgeon to the Mary Hitchcock Memorial Hospital, Hanover, and author of textbooks on physiology and hygiene; died at his home in Hanover, N. H., September 17, from cerebral hemorrhage, aged 70.

David Finney Stuart, M.D. Jefferson Medical College, Philadelphia, 1859; chief surgeon of the Houston and Texas Central and Houston East and West Texas railroads from 1878-1895; president of the Houston Infirmary Sanitarium; formerly president of the board of trustees of Texas Medical College; assistant surgeon of the Tenth Texas Infantry and senior surgeon of Granberry's Texas Brigade in the Civil War; in 1871 vice-president and two years later president of the State Medical Association of Texas; died at his home in Houston, September 8, aged 76.

William Francis Mitchell, M.D. University of Michigan, Ann Arbor, 1868; a member of the American Medical Association; formerly president of the Schuyler County (Mo.) Medical Society; a member of the American Public Health Association, American Association for the Advancement of Science, and Northeast Missouri Medical Association; local surgeon at Lancaster for the Burlington System, and a member of the local board of U. S. pension examining surgeons; died at his home September 11, aged 67.

Howell Emolyn Davies, M.D. Rush Medical College, Chicago, 1902; a member of the American Medical Association; fellow in bacteriology, University of Chicago, 1897-1900; and instructor in gynecology in his alma mater in 1902 and 1903; died at his home in Emporia, Kan., August 26, from typhoid fever, aged 38.

Walter B. Batcheller, M.D. Northwestern University Medical School, Chicago, 1900; a member of the State Medical Society of Wisconsin; for four years a medical missionary in Corea and China, and since his return a practitioner of Madison and Cable, Wis., died in the Madison General Hospital, September 10, aged 41.

William Thomas Gardner, M.D. Physio-Medical Institute, Cincinnati, 1871; for five years superintendent of the Oddfellows Orphans' Home, Checotah, Okla.; a member of the city council and afterward mayor of Ardmore, Okla.; died at his home in that city, September 4, from nephritis, aged 60.

John Holmes Hand, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1870; of Dias Creek, N. J.; while driving across the tracks of the West Jersey and Seashore Railroad at Cape May Court House, N. J., September 8, was struck by a train and instantly killed, aged 64.

Stephen Neal, M.D. Atlanta (Ga.) Medical College, 1886; of Cordele, Ga.; formerly of Talbotton, Ga.; who invented a new process of extracting turpentine which has said to have revolutionized that industry; died in the Cordele Sanitarium, September 10, after an operation for appendicitis, aged 48.

Gustave McFadden, M.D. Albany (N. Y.) Medical College, 1864; assistant city assessor of Chanute, Kan.; clerk of Neosho county from 1878 to 1880, and deputy register of deeds from 1882 to 1884; died suddenly in Manitou, Colo., August 19, from acute gastritis, aged 71.

Charles Timothy Newkirk, M.D. University of the Victoria College, Coburg, Ont., 1864; a member of the Michigan State Medical Society, and a surgeon of volunteers during the Spanish-American War, died at his home in Bay City, September 16, from heart disease, aged 68.

James Tampson Valliant, M.D. Texas Medical College, Galveston, 1874; of Killeen, Texas; a member of the State Medical Association of Texas; died at the home of his daughter in Santa Ana, Cal., July 17, from the effects of a carbuncle on the neck, aged 69.

Pierson C. Curtis, M.D. Albany (N. Y.) Medical College, 1884; a member of the American Medical Association; of Round Lake, N. Y.; was killed in a collision between his automobile and an electric car at Round Lake, September 6, aged 53.

Levin Clarke Royster, M.D. Louisville (Ky.) Medical College, 1884; a member of the American Medical Association; died at his home in Smith's Mills, Ky., August 14, from the effects of a fall from a hayloft, in which he fractured the cervical spine, aged 49.

William Henry Russell, M.D. College of Physicians and Surgeons, Boston, 1891; Tufts Medical School, Boston, 1895; a member of the Massachusetts Eclectic Medical Society; died at his home in Ipswich, Mass., June 6, from cerebral hemorrhage, aged 49.

James Brown Burnet, M.D. New York University, New York City, 1866; a member of the board of trustees of the New Jersey Historical Society and a medical cadet during the Civil War; died at his home in Newark, N. J., September 7, aged 66.

Henry Ziesing, M.D. University of Giessen, Germany, 1851; Illinois Army Board, 1865; a surgeon of volunteers during the Civil War; for many years a practitioner of Peru, Ill.; died at his home in that city, September 11, from paralysis, aged 80.

William A. Briant, M.D. Missouri Medical College, St. Louis, 1883; a member of the Arkansas Medical Society; for several terms a member of the Arkansas legislature; died at his home in Hope, September 4, from cancer of the kidney, aged 47.

Urban P. Stair, M.D. Northwestern University Medical School, Chicago, 1862; a member of the Wisconsin State Medical Society; surgeon of volunteers during the Civil War; died at his home in Fort Atkinson, Wis., September 6, aged 71.

Henry H. Cheatham, M.D. Barnes Medical College, St. Louis, 1895; formerly of Bainbridge, Ga.; for two years a practitioner of Havana, Fla.; while hunting near that place, August 26, was accidentally shot in the leg, and bled to death.

Oliver Dwight Paine, M.D. American College of Medicine in Pennsylvania and Eclectic Medical College of Philadelphia, 1860; a practitioner of Youngstown, Ohio since 1848; died at his home, September 1, from senile debility, aged 90.

John James Alexander Smith, M.D. Atlanta (Ga.) Medical College, 1858; a Confederate veteran, and at one time a member of the legislature from Greene county, Ala., died at his home in Union, September 9, aged 81.

William E. Haines, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the American Medical Association, and a veteran of the Civil War, died at his home in Bushnell, Ill., September 12, aged 60.

Henry Taylor Barstow, M.D. Harvard Medical School, Boston, 1884; a member of the American Medical Association and the Harvard Medical Club; died at his home in Boston, recently, aged 50.

Mary Pradt-Harper, formerly a medical missionary among the Navajo Indians in Arizona, died in the State Hospital for the Insane, Mendota, Wis., Dec. 16, 1908, from cerebral hemorrhage, aged 56.

Erasmus S. Dodd, M.D. Eclectic Medical Institute, Cincinnati, 1849; for sixty-five years a practitioner of Michigan; died at his home in Buchanan, September 13, from senile debility, aged 90.

Joseph Fryer Bazill, M.D. University of Nashville, Tenn., 1894; Vanderbilt University, Nashville, 1894; of Crayon, Ohio; died in the State Hospital for the Insane, Columbus, September 1, aged 58.

Philip E. Hepler, M.D. University of the South, Sewanee, Tenn., 1895; of Bridgeport, Ohio, died at the home of his brother in Bethlehem, Pa., September 6, from tuberculosis, aged 37.

Edward P. Gould, M.D. Medical College of Ohio, Cincinnati, 1868; a member of the Ohio State Medical Association; died at his home in Sheridan, September 5, from nephritis, aged 65.

Joshua C. Boullee, M.D. Trinty Medical College, Toronto, 1875; of New York City; died in St. Vincent's Hospital, September 8, from the effects of a fall from his porch, aged 57.

William M. Barnes, M.D. Baltimore Medical College, 1882; a member of the Medical and Chirurgical Faculty of Maryland; died at his home in Baltimore, September 11, aged 85.

Amelia Wilkes Lines, M.D. Hygeio-Therapeutic College of New York, New York City, 1851; died at her home in Brooklyn, N. Y., September 11, from senile debility, aged 85.

Mary F. Stryker, M.D. Woman's Medical College of Georgia, Atlanta, 1890; died at her home in New York City, September 12, from cerebral hemorrhage, aged 40.

Hugh Thomas Adams, M.D. School of Physic, Trinity College, Dublin, Ireland, 1869; died at his home in Jersey City, September 8, aged 63.

Richard M. Johnson, M.D. University of Michigan, Ann Arbor, 1871; died at his home in Northville, Mich., September 9, from uremia, aged 66.

Roy Welch, M.D. St. Louis University, 1907; died at his home in Lincoln, Ill., from malignant endocarditis, September 7, aged 30.

Charles Edward Louth, M.D. American Eclectic College, Cincinnati, 1886; died at his home in Cleveland, Ohio, August 25, aged 66.

Charles M. Snyder (license, Mich.); died at his home in Lake Odessa, Mich., September 5, from pernicious anemia, aged 58.

Jesse Longfield, M.D. Bennett Medical College, Chicago, 1853; died at his home in Turney, Mo., September 2, aged 78.

Axel Otto Lindfors, M.D. professor of gynecology and obstetrics in the University of Upsala, Sweden; an able writer in his specialties; a man of letters and a lyric poet; died suddenly August 18, at Düren, Rhine Provinces, Germany, aged 57.

Book Notices

EPOCH-MAKING CONTRIBUTIONS TO MEDICINE, SURGERY AND THE ALLIED SCIENCES. Collected by C. N. B. Camac, A.B., M.D. Cloth. Pp. 435, with illustrations. Price, $4. Philadelphia: W. B. Saunders Co., 1909.

This work consists mainly of reprints of those articles which first brought to the notice of the scientific world the epoch-making observations of such men as Lister, Harvey, Auenbrugger, Laennec, Jenner, Morton and Holmes. There are also given brief biographic sketches of the observers themselves. The collector of these papers calls attention to the fact that the teachings of the original observers are by no means obsolete, a point that will forcibly impress itself on the reader. Such a resurrection of communications that have in many cases been buried in a mass of more or less indifferent literature is an achievement for which Dr. Camac deserves the thanks of the medical profession. The teachings of great authorities in other branches of science and art have long been accessible; that the same has not been true in medicine is of no great credit to the profession. The selection and arrangement of the material is all that could be wished. The physician who is interested in the "scientific side of the investigator's mind" will not be willing to be without the book.

GENERAL SURGERY. By Ehrich Lexer, M.D., Professor of Surgery, University of Berlin. Translated from Second German Edition by Dean Lewis, M.D., Instructor in Surgery, Rush Medical College. Edited by Arthur Dean Bevan, M.D., Professor of Surgery, Rush Medical College. Cloth. Pp. 1041, with illustrations. Price, $6.00. New York: D. Appleton & Co., 1908.

This volume is an English translation from the German of that part of Lexer's work which treats of the general principles underlying the practice of surgery. The chief object in presenting this translation was to furnish the English-reading student with the most authoritative volume, containing latest additions to the very essential subjects usually grouped under the title of general surgery; and in the selection of Lexer's work the translators have made no mistake. Every practitioner must always remain a student and there are no subjects in medicine about which any one man's knowledge is so complete and so perfect that it is unnecessary to review constantly in order to keep well informed. Hence a work like this on so-called principles while primarily intended for students, is of just as much value to the practitioner. The work has been considerably improved by numerous additions made by the American editor, notable among which are the chapters on nitrous oxid gas anesthesia, on blood examinations, on blastomycosis, etc. The work is a creditable one and ought to be welcomed by the practitioner as well as the undergraduate.

SURGERY, ITS PRINCIPLES AND PRACTICE. By various authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, and John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol iv. Cloth. Pp. 1194, with illustrations. Price, $7.00. Philadelphia: W. B. Saunders Co., 1908.

In this volume of Keen's system are discussed the surgery of the intestines, including the rectum and anus and hernia; surgery of the genitourinary organs; surgery of the eye and of the ear; military, naval and tropical surgery and the influence of race, sex and age in surgical affections. The author selected to write on each particular subject in question is recognized as one eminently qualified for the task.

It is impossible to review each chapter *in extenso*, but attention is directed to a few special features. The absence of any mention of the injection treatment of hernia is to be regretted, not because of any merit which it may possess, but because its great popularity with a certain class makes it desirable that its demerits should be exposed.

The chapter on examination of the urine in relation to kidney disease will be a shock to many enthusiasts in that line, but it is a practical exposition of the subject by a thoroughly practical man. Under surgery of the genitourinary organs, the chapters on the bladder and the prostate deserve special mention, while under surgery of the intestines, of special interest are the remarks on inflammation of the various diverticula and the chapter on the appendix. As might be expected from the subjects, this volume is perhaps thus far the most interesting of this very excellent system.

INTRODUCTION A L'ETUDE CLINIQUE ET A LA PRATIQUE DES ACCOUCHEMENTS: Anatomie—Présentations et Positions—Mécanisme—Toucher—Manœuvres—Extraction du Siège—Version—Forceps. Par L. H. Farabeuf et Henri Varnier. Paper. Pp. 488, with illustrations. Price, $3.00. Paris: Georges Steinheil.

This book was out of print for some time, though a reprint was published in 1904. One of the authors, Varnier, has died, and this new edition has been prepared by Farabeuf. The defective illustrations have been redrawn, though Farabeuf states that there are still some with which he is dissatisfied. It is unfortunate that there is no English translation of this work, but in any case the book will probably be of more value to teachers of obstetrics than to general practitioners. Farabeuf says that the work is largely the result of experiments in the dissecting room on the bodies of women and infants preserved in gelatin to keep the tissues supple. Chapter 1 takes up the pelvo-genital canal, measurements of the fetal head and the various presentations. Chapter 2 discusses the mechanism of labor in vertex, breech and face presentations and positions. Chapters 3, 4 and 5 take up in turn vaginal measurements and various presentations, manual extraction and podalic version. A great deal of space, almost half the book, details the use of forceps.

HINTS IN PRACTICAL URINALYSIS WITH ETIOLOGY AND SYMPTOMS OF SOME IMPORTANT GENITOURINARY DISEASES. Third Edition. By Charles C. Yarbrough, M.D., Therapist, Scientific Department, Frederick Stearns & Co. Paper. Pp. 77. Detroit, Mich.: Press of Frederick Stearns & Co.

Although this pamphlet is issued as an advertisement for the firm and is sent gratuitously to physicians who ask for it, the advertising of the firm is confined to a few pages in the back. The text is good and the pamphlet worth having. It summarizes well the principles and methods of urinalysis.

Miscellany

TUBERCULOSIS NOMENCLATURE AND CLASSIFICATION

A Committtee Report Approved by the American Sanatorium Association

BY H. L. BARNES, WALLUM LAKE, R. I.; LAWRASON BROWN, TRUDEAU, N. Y.; H. S. GOODALL, LAKE KUSHAQUA, N. Y.; ESTES NICHOLS, HEBRON, ME.; AND L. ROSENBERG, BEDFORD STATION, N. Y.

The committee appointed to consider carefully the classification adopted by the National Association for the Study and Prevention of Tuberculosis, to define exactly the terms employed therein, to formulate rules to insure a uniform method of examination; in short, to add to or to subtract from this classification, as the committee thought best, and finally to report its conclusions at this meeting of the society, begs leave to submit the following report.

This report is divided into several separate parts which deal with the various subjects assigned to the committee. The first section deals with the definition of terms employed in the classification; the second with the methods of examination that the committee would advise; the third with statistical reports of the sanatorium, a subject which alone renders this report of interest; the fourth discusses several mooted points; and the fifth includes the classification that we feel should be adopted by the sanatorium workers of America.

Inasmuch as many may not clearly hold in mind the classification adopted by the National Association for the Study and Prevention of Tuberculosis, it was thought best to include it in this report. It is as follows:

CLASSIFICATION

Incipient.—Slight initial lesion in the form of infiltration limited to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbance or rapid loss of weight).

Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest.

Expectoration usually small in amount or absent.

Tubercle bacilli may be present or absent.

Moderately Advanced.—No marked impairment of function, either local or constitutional. Localized consolidation moderate in extent with little or no evidence of destruction of tissue or disseminated fibroid deposits. No serious complications.

Far Advanced.—Marked impairment of function, local and constitutional. Localized consolidation intense, or disseminated areas of softening, or serious complications.

Acute Miliary Tuberculosis.—

Unimproved.—All essential symptoms and signs unabated or increased.

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration usually present.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.[1]

Apparently Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

DEFINITION OF TERMS

TERMS USED IN DEFINITION OF "INCIPIENT"

1. *Slight Constitutional Disturbance.*—Slight loss of appetite, of strength, of weight; lassitude; possibly slight acceleration of pulse or possibly slight elevation of temperature. The impairment of health may be so slight that the patient does not look or feel sick in the ordinary sense of the word.
2. *Slight Elevation of Temperature.*—Maximum temperature after rest for one hour, never over 99.5 to 100° F. by mouth (or 100.5 per rectum).
3. *Slight Acceleration of Pulse.*—Maximum pulse rate not over 90 after rest for one hour, sitting or lying, except when due to causes other than tuberculosis.
4. *Absence of Tubercle Bacilli.*—Each monthly examination (if the sputum be negative) to consist of a careful microscopic examination, with a mechanical stage, of two smears, devoting at least three minutes to each smear, made from selected particles (at least six from different parts) of the sputum on each of three successive days. The morning sputum should always be obtained, or, better, the minute bits that some arrested patients raise at very infrequent intervals. It is not yet deemed wise to insist on digestion and centrifugalization or on inoculation of guinea-pigs.
5. *Infiltration.*—Physical signs of, slight prominence of the clavicle, lessened movement of chest, narrowing of apical resonance with lessened movement of base of lung, slight or no change in resonance, distant or loud and harsh breathing, with or without some change in the rhythm (i. e., prolonged expiration), vocal resonance possibly slightly increased; or fine or moderately coarse râles present or absent. If sputum contain tubercle bacilli, any one of these.
6. *Apex.*—That portion of the lung situated above the clavicle and the third vertebral spine.
7. *A Small Part of One Lobe.*—An area of one or two intercostal spaces, or an area not exceeding 60 to 80 sq. cm. in extent, according to the size of the patient.

TERMS USED IN DEFINITION OF "MODERATELY ADVANCED"

8. *Marked Impairment of Function, Either Local or Constitutional.*—Local: Marked dyspnea on exertion, limiting seriously the patient's activity.

   Constitutional: Marked weakness, anorexia, tachycardia.
9. *Moderate Extent of Localized Consolidation.*—An area of one-half lobe or less, but may involve both apices; marked dulness, bronchial or decidedly broncho-vesicular

1. The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advise, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

breathing; markedly increased vocal resonance; râles usually present. These signs are to be sharply limited as to area instead of gradually shading into normal physical signs.

10. *Evidence of Destruction of Tissue.*—Presence of tubercle bacilli or elastic fibers in the sputum or the presence of the physical signs of a cavity. There are no absolutely certain physical signs of cavity but a combination of any four of the following signs is to be taken as indicative of a cavity: (1) cracked-pot note; (2) amphoric breathing; (3) intense whispering pectoriloquy; (4) a veiled puff or post-tussive suction; (5) bubbling or resonant râles. "Physical signs of softening" do not admit of any definition apart from that of cavity formation, and the term should not be used.

11. *Disseminated Fibroid Deposits.*—More or less localized areas of fibrous tissue, producing on physical examination, some change or dulness in the percussion note, more or less increase of vocal resonance, harsh, suppressed or broncho-vesicular breathing, râles sibilant or sonorous usually, but at times fine and moderately coarse.

12. *Serious Complications.*—These should be limited to tuberculous complications, such as meningitis, pharyngitis, laryngitis (except slight thickening in the posterior interarytenoid space, and superficial ulceration of a vocal cord), enteritis, peritonitis, nephritis, cystitis, orchitis, adenitis (unless very slight), etc.

TERMS USED IN DEFINITION OF "FAR ADVANCED"

13. *Intense Localized Consolidation.*—This term should be replaced by "marked consolidation of an entire lobe." "Marked consolidation" indicates dulness merging into flatness, bronchial or tubular breathing and other signs of consolidation as defined in Paragraph 10.

TERMS USED IN DEFINITION OF "APPARENTLY CURED"

14. *Constitutional Symptoms.*—These include elevation of temperature, loss of weight, loss of strength, night sweats, chills, tachycardia, cyanosis, loss of appetite, amenorrhea, etc.

15. *Physical Signs of a Healed Lesion.*—These may embrace every physical sign of infiltration or consolidation (see paragraphs 6, 10), with the exception of râles, which must be permanently absent, except possibly a few fine râles at the base, probably atelectatic in origin, and at one apex or over a small part of one lobe. Râles in the latter two places are to be heard only during the cough, at the end of a prolonged expiration, or during the inspiration which follows the cough.

TERMS USED IN DEFINITION OF "IMPROVED"

16. *Constitutional Symptoms Lessened or Entirely Absent.*—By this is meant an improvement in the general condition as shown either by a gain in *both* weight and strength or by reduction of previous febrile temperature to normal without loss of strength.

TERMS USED IN DEFINITION OF "UNIMPROVED OR PROGRESSIVE"

17. *Essential Symptoms and Signs.*—These include, among others, weight, strength, appetite, night sweats, hemoptysis, pleurisy, dyspnea, temperature, pulse-rate, dulness, changes in vocal resonance and respiratory movement, râles.

TABLE 1.—MODIFIED TURBAN SCHEME

Number.		Condition.	Extent of Physical Signs (Turban). Both Lungs.	Extent of Physical Signs (Turban). Each Lung.	Duration of Disease.	General Condition.	Digestion.	Range of Pulse, 7 Days on Admission, 2 Days on Discharge.	Av. Max. Temp., 7 Days on Admission, 2 Days on Discharge.	T. B.			Complications.	Tuberculin. Variety, No. of Days and Doses, Highest Dose in Grams.
											Previous.	Residence.		
2437	On admission.	Incipient...	I	R	6 months..	Favorable....	Impaired	80-102	98.9	O	....	O	.....	.....
	At discharge..	Ap. cured..	O	.....	12 months..	Favorable....	Unimpaired..	78- 90	99.0	O	....	....	.....	.....
2439	On admission.	Mod. Adv...	I	R L	16 months..	Favorable....	Unimpaired..	80-100	99.6	+	....	+	.....	.....
	At discharge..	Arrested....	II	R	23 months..	Favorable....	Unimpaired .	80- 92	98.9	O	....	....	.....	.....
2440	On admission.	Mod. Adv ..	II	R^1 L^3	4 months..	Unfavorable.	Unimpaired .	88-108	99.1	O	O	+	.....	.....
	At discharge..	Unimprv'd.	II	R^1 L^2	11 months..	Unfavorable.	Unimpaired .	72-130	99.4	+	....	....	.....	.....
2442	On admission.	Mod. Adv...	II	R^1 L^2	9 months..	Favorable....	Unimpaired .	80-100	99.3	O	....	O	.....	.....
	At discharge..	Ap. cured..	I	R	20 months..	Favorable....	Unimpaired .	80- 88	98.8	O	....	....	.....	.....
2443	On admission.	Mod. Adv..	II	R^1 L^1	4 months..	Favorable....	Unimpaired .	80-100	99.4	O	O	+	.....	.....
	At discharge..	Failed.....	III	R^3 L^2	12 months..	Favorable....	Unimpaired .	78-102	99.0	O	....	....	.....	.....

TABLE 2.—SUMMARY

Class.	Extent of Physical Signs According to Turban.	T. B. Found at Any Time.	Hygienic-dietetic Treatment Without Tuberculin. Patients Who Stayed Over 90 days. Average Residence, 209 Days. Cases. No.	Cases. %	Appar. Cured. No.	Appar. Cured. %	Arrested. No.	Arrested. %	Improved. No.	Improved. %	Progressive. No.	Progressive. %	Died.
Incipient.....	I	O	15	20	10	67	4	27	1	7	....	....	..
Incipient.....	I	+	16	21	3	19	12	75	1	6	....	....	..
Mod. advanced..	I	O	4	5	1	25	2	50	....	....	1	25	..
Mod. advanced..	I	+	7	9	....	....	7	100	....	....	....	....	..
Mod. advanced..	II	O	5	7	2	40	2	40	1	20	....	....	..
Mod. advanced..	II	+	22	29	....	....	13	59	5	23	4	18	..
Mod. advanced..	III	O	2	2	....	....	2	100	....	....	....	....	..
Mod. advanced..	III	+	5	7	....	....	5	100	....	....	....	....	..
Far advanced....	III	+	....	....	....	....	....	....	....	....	....	....	..

Class.	Extent of Physical Signs According to Turban.	T. B. Found at Any Time.	Hygienic-dietetic Treatment With Tuberculin. Patients Who Took Tuberculin More Than 90 Days. Average Residence 250 Days. Cases. No.	Cases. %	Appar. Cured. No.	Appar. Cured. %	Arrested. No.	Arrested. %	Improved. No.	Improved. %	Progressive. No.	Progressive. %	Died.
Incipient.....	I	O	9	15	5	56	1	11	3	33	....	....	..
Incipient.....	I	+	14	24	4	29	8	57	1	7	1	7	..
Mod. advanced..	I	O	2	3	....	....	2	100	....	....	....	....	..
Mod. advanced..	I	+	7	12	....	....	6	86	1	14	....	....	..
Mod. advanced..	II	O	1	2	....	....	1	100	....	....	....	....	..
Mod. advanced..	II	+	15	25	....	....	11	73	3	20	1	7	..
Mod. advanced..	III	O	1	2	....	....	1	100	....	....	....	....	..
Mod. advanced..	III	+	9	15	....	....	4	44	3	33	2	22	..
Far advanced....	III	+	1	2	....	....	....	....	1	100	....	....	..

TERMS USED IN DEFINITION OF "CURED"

18. *Ordinary Condition of Life.*—This term as used implies that the patient is able to live in an environment where he is able to support himself without the assitance of others, or to live in his former surroundings and pursue his former occupation.

2. The Method of Physical Examination

Any classification must necessarily depend in part on physical signs, and, as long as different examiners follow different methods of examination the exent of the physical signs will vary and the usefulness of any classification, intended for comparison, will be greatly limited. To overcome this difficulty the committee suggests that the patient should be stripped to the waist and that râles should be said to be absent only when they are absent after the patient exhales, coughs at the end of exhalation and then takes a full, deep, fairly quick breath through his mouth. A stethoscope must be used for this examination.

3. Statistical Reports of Sanatoriums

The committee feels that much might be done to improve the statistical reports of American sanatoriums and would urge those institutions that have not done so to publish certain details about each patient on admission and on discharge. Turban of Davos has devised a scheme for this purpose which the committee has modified somewhat. Every sanatorium is urged to use this scheme for reporting its individual cases. The modified scheme is given in Table 1.

The extent of the physical signs in each lung has been noted as well as the presence or absence of tubercle bacilli before admission and during residence. The committee believes that the presence or absence of signs of cavity formation should be noted in the scheme. This datum can easily be indicated by a small (lower case) c after the letter R or L in the second column under "Extent of Physical Signs," e. g., "Re." This would not necessitate another column.

The summary of the results of this tabulation in the reports of many sanatoriums are far from satisfactory, and your committee would suggest that the form of summary given in Table 2 be adopted:

This summary divides all patients into the three classes advised by the National Association for the Study and Prevention of Tuberculosis, and, further, each of these is divided into the different classes according to the extent of phyical signs. Turban's classification has been used for this purpose, and attention is called to the fact that the three original classes, incipient, moderately advanced and far advanced, have nothing in common with Turban's classification which deals only with the extent of physical signs. Finally, each of these stages is divided into two classes, according to whether the lesion has ever been open (tubercle bacilli present at any time) or has always been closed.

This summary, it is believed, will remove several criticisms of the classification adopted by the National Association. Both "moderately advanced" and "far advanced" classes are too broad, it is urged, and rightly, and as much difference, if not more, exists within these groups than between them or between the "moderately advanced" and "incipient" classes. This summary divides the "moderately advanced" group into six divisions, all of which should be reported on separately. It also divides the "far advanced" group into two or more divisions.

The results of the sputum examinations recorded in most reports is also far from satisfactory and the scheme given in Table 3 is suggested. When tuberculin has not been used it is, of course, unnecessary to divide the cases into those who have and those who have not received tuberculin.

It has been suggested by the International Conference at Vienna that the Turban classification of the extent of physical signs should be so modified as to include in the third group all cases with physical signs greater in extent than one lobe. The objection to this classification, known as the Turban-Gerhardt, is the unevenness of the distribution, and, while it divides the first group, which really needs division, the adoption of the summary, discussed elsewhere in this report, divides that group in a very satisfactory manner and the enlargement of the third group makes the Turban-Gerhardt classification of less value.

Mooted Points

The "temperature" is still a vexed question and the committee all hold individual opinions which vary greatly. These recommendations do not meet the entire approval of any member. The temperature should be taken by mouth with a reliable thermometer. Thermometers bought in quantity from any firm should be guaranteed by the firm and a certain number tested by the Bureau of Estimates in Washington as a control.

The thermometer should be left in the mouth, which has been kept closed for at least five minutes, for five to ten minutes to detect the slighter rises of temperature. When the rectal temperature has been taken this fact should be noted.

Two members believe that the temperature should be taken immediately after meals, because, they assert, (1) a rise to 99 to 100 may occur only at this time, and (2) the mouth temperature rises for one hour when the patient comes indoors during cold weather. One insists on a two-hour record. Two members of the committee oppose this time and would suggest either before meals or on awaking, at 4 and 8 p. m., believing that the temperature of the mouth in normal individuals may be affected after eating (as that of the rectum after horseback riding, which has risen to 101 in a healthy person), and further, that heat or cold, which affect the temperature of the mouth through the cheeks, may also raise it much more readily when taken in the mouth in the form of hot drinks or cold or iced foods.

The "normal" temperature is still a mooted point, but far more is known in regard to the oral than in regard to the rectal temperature. The range for each patient varies somewhat, but it is unwise to consider any patient "arrested" or "apparently cured" when the temperature for three or more days averages over 99 F. Absorption from an old focus may cause rise of temperature when the disease is quiescent, but no one can separate such a condition from a slow advance of the dis-

TABLE 3.—RESULTS OF SPUTUM EXAMINATIONS OF ABOVE PATIENTS.

Class.	Extent of Physical Signs According to Turban.	Treatment.	A R D + + +		A R D + + O		A R D + O O		A R D O + +		A R D O O +		A R D O + O		A R D O O O		P A R D + O O O	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Incipient..	I	Without Tu..	.....	.....	4	13	4	13	.....	....	.....	....	3	10	15	48	5	16
Incipient..	I	With Tu.....	5	22	4	17	1	4	.....	....	.....	....	1	4	9	39	3	13
Moderately advanced.	I	Without Tu..	1	9	4	36	1	9	.....	....	.....	....	.....	....	4	36	1	9
Moderately advanced.	I	With Tu.....	4	44	3	33	.....	.....	.....	....	.....	....	.....	....	2	22		
Moderately advanced.	II	Without Tu..	6	22	6	22	3	11	3	11	.....	....	1	4	6	22	2	7
Moderately advanced.	II	With Tu.....	6	37	4	25	3	19	.....	....	1	6	1	6	1	6		
Moderately advanced.	III	Without Tu..	1	14	3	43	2	29	.....	....	.....	....	.....	....	1	14		
Moderately advanced.	III	With Tu.....	6	60	1	10	.....	.....	.....	....	.....	....	.....	....	1	10	2	20
Far advanced.....	III	With Tu.....	1	100	.....	.....	.....	.....										

NOTE.—O=Tubercle bacilli absent. + =Present. A=Admission. R= During residence. D=On discharge. P=Previous to admis-ion.
When T. B. were present on admission, no note is made with regard to previous examinations.
When T. B. were present previous to admission and also at any time during residence, they are marked as present on admission.

ease, imperceptible by our present methods of examination. A rise for a single day to 99.5 F. or even higher when some definite factor (coryza, tonsillitis, etc.) is unquestionably the cause, should be disregarded in making up the average on discharge. It would undoubtedly be wise to insist on a two-hourly temperature record, were this possible, but in any case the temperature should be taken whenever possible after rest (that is, complete relaxation, mental and physical, in a sitting or reclining posture) for at least one hour. Quiet reading or conversation need not be forbidden some patients.

CLASSIFICATION

With these definitions and modifications the committee would suggest that the following classifications be used on admission, on discharge, and for ultimate records:

1. ON ADMISSION

These definitions indicate the furthest extent of disease and the greatest severity of symptoms that a patient can present and still belong to the stage defined. All patients beyond the incipient stage fall under the moderately advanced stage unless the physical signs and symptoms exceed those of the moderately advanced stage, when they should be classified as far advanced.

Incipient.—Slight or no constitutional symptoms (including particularly gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours.

Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

Slight infiltration limited to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications.

Moderately Advanced.—No marked impairment of function, either local or constitutional.

Localized consolidation moderate in extent with little or no evidence of cavity formation; or infiltration more extensive than under incipient.

No serious complications.

Far Advanced.—Marked impairment of function, local and constitutional.

Marked consolidation of an entire lobe.

Or disseminated areas of beginning cavity formation.

Or serious complications.

Miliary Tuberculosis.

2. ON DISCHARGE

Apparently Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.[2]

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Unimproved or Progressive.—All essential symptoms and signs unabated or increased.

Died.

3. ULTIMATE RESULTS

Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Well.—Patients who fulfil all the conditions required under "cured" but about whose sputum no definite information can be obtained.

Arrested.—See above.

Improved.—See above.

Progressive.—See above.

Dead.

2. The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

Medicolegal

Newspaper Articles Concerning Professional Conduct of Physicians Not Privileged

The Supreme Court of South Dakota considers, in the libel case of Rood vs. Dutcher, the question of whether newspaper articles concerning the professional conduct of a practicing physician should be regarded as privileged communications merely because of the relation of the physician as such to the general public in the territory to which his practice extends.

So far as applicable to this question a privileged communication is defined by the civil code of South Dakota, the court says, to be one "made, without malice, to a person interested therein, by one who is also interested, or by one who stands in such relation to the person interested as to afford a reasonable ground for supposing the motive for the communication innocent." This court has held that this definition embraces newspaper articles relating to the official conduct of public officers and candidates for public office. Does it also embrace newspaper articles relating to the professional conduct of physicians? The court thinks not.

The relation of a public officer to the public is substantially different from that of the physician. All are or may be affected by the official conduct of the former, and therefore are interested in any communication in relation thereto, while only such persons as desire to employ the latter are interested in communications relating to his professional conduct. Hence neither the proprietor of a newspaper nor any other person owes any duty to give information concerning the same unless requested to do so by some one desiring to employ the physician. Indeed, no reason exists for extending the presumption of innocent motive to false statements regarding a physician which would not apply with equal force to a minister of the gospel, an attorney at law, a banker, merchant, or other person whose vocation involves voluntary transactions with people generally in the community in which such person resides.

Admissibility of Evidence as to Character of Prior Childbirths and Pains

The Supreme Court of Iowa says that in the personal injury case of Etzkorn vs. City of Oelwein the plaintiff claimed that while passing over a defective sidewalk she was tripped by the loose boards, thrown forward and down on the walk, displacing an unborn child which she was then carrying from its natural position, causing delayed, prolonged and more difficult labor and greatly injuring and impairing her health. It appeared that she had been delivered of four other children prior to the time the one in question was born. She was asked as to how these other children were born, whether in a normal or abnormal position; and as to whether or not she suffered any pains or inconvenience from the birth of her other children. To the first question she responded that they were born in a normal position, and to the second that she had not suffered pains. The court is constrained to hold that these questions were improper, and the answers decidedly prejudicial.

The court knows of no authority which holds that because a woman is delivered of one or more children in a normal position that others are likely to and will be born in the same position. It was shown in the record in this case, and it is well known, that unborn children assume various positions while in the mother's womb, changing their position from time to time, and that whenever there is no movement there is danger not only to the child but to the mother. The plaintiff claimed that by reason of her fall her unborn child was forced in a transverse and unnatural position, where it remained until birth, when it had to be changed by means of instruments and manipulations into a proper position for delivery. In order to demonstrate this, she was permitted to testify that her other children were born in a normal position. There was no logical connection between these facts.

Moreover, the plaintiff's testimony that she suffered no pain when her prior children were born might be true, although contrary to all human experience; but, even if true, it had no tendency to show that the pain she suffered from the delivery of her last child was due to the injury she received when she fell on the sidewalk.

The only legitimate inference to be derived from the plaintiff's testimony as to prior childbirths was that these deliveries did not rupture any of her organs, and that she had not suffered any lesions which were found after the birth of her last child. Direct testimony was admissible on this point.

The effort undoubtedly was to have the jury believe that, as she had not previously suffered from childbirth, her suffering which she had described as accompanying the birth of her last child must have been due to the accident on the walk. For reasons already suggested, the court does not think this true, either as a logical or gynecologic proposition.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

September 11

1 Inflammation of the Knee-Joint. C. Ogilvy, New York.
2 *Laryngeal Tuberculosis. R. Levy, Denver.
3 Treatment of Pruritus Ani. W. M. Beach, Pittsburg, Pa.
4 Physiology and the Second Law of Thermodynamics. F. H. Garrison, Washington, D. C.
5 Blood Examination in the Presence of Gangrene. I. S. Wile, New York.
6 *Fracture of the Neck of the Femur in a Multipara. S. A. Savitz, Philadelphia.
7 *Do the Saprophytes Produce Toxins which have Elective Attraction for the Brain and Nerve Tissue and thus Cause the Idiopathic Diseases of These Structures? B. R. Le Roy, Athens, Ohio.
8 Is Tuberculosis Decreasing in Cities of Between 300,000 and 500,000 Inhabitants? L. Irwell, Buffalo.

2. **Laryngeal Tuberculosis.**—Levy summarizes his paper as follows:

1. Pathologic conditions of the laryngeal mucosa, especially chronic catarrhal laryngitis, are important factors in the etiology of tuberculosis of the larynx.

2. Pain is not always present in laryngeal tuberculosis. When present it is not always conclusive that the lesion is tuberculous. It may exist without ulceration.

3. The beneficial effect of mercurial treatment in laryngeal lesions of tuberculous patients should not be accepted as positive proof of the value of this treatment in tuberculosis. It must be recognized that the differential diagnosis between syphilis and tuberculosis of the larynx is at times extremely difficult especially when the former exists in tuberculous patients.

4. Bacteriologic confirmation of the diagnosis is often obtainable by examination of smears made directly from the laryngeal lesion.

5. It is necessary to again impress on the general profession the curability of laryngeal tuberculosis. It is especially important that the prognosis be determined by a careful study of the lesion in all its characteristics.

6. Local treatment to be effective must be well selected both as to time of applications and method of procedure.

6. **Fracture of Femur During Labor.**—The third day after delivery the patient experienced a transferred pain in the right hip joint radiating to the knee, which was very excruciating on the slightest disturbance of the limb, thus rendering change of posture impossible with the single exception of extension of the limb, which lessened the pain to a considerable extent. As a result of her suffering, the attending physician, together with others, treated her internally for some nervous affection, but her pain still persisted. About two months after delivery Savitz saw the patient and made a diagnosis of impacted fracture of the neck of the femur, which was confirmed by operation. Savitz emphasizes particularly that this fracture must have been caused at the time of delivery by the unforeseen negligence of the attending physician by causing a slight twist of the thigh, or endeavoring to manipulate the instruments, flexed the leg more than the normal capacity could endure, and, as a result, fracture of the neck of the femur followed. In addition thereto, it is plausible to believe that it may have been caused after delivery, but the patient positively states that she was not out of bed, but rather rested herself, and knowing there would be exaggerated pain on the slightest movement, it is fair to assume that she remained in bed, and, consequently, there was no disturbance to cause any such fracture. On the other hand, it would be ridiculous to conclude that the fractured neck of the femur was caused by a previous disease of the hip joint when the pain was experienced but two days after labor.

7. **Saprophytes and Nerve Tissue.**—Le Roy holds that to the absorbed toxins and endotoxins, generated by the so-called spore-bearing saprophytes of the human body are due the varying degrees of mental and nerve disorders, from simple absent-mindedness to asymbolia, from the simple nervousness to the most intractable disease of the brain or nerves, heredity, like traumatism, only playing the part of a weakening agent, at which time the toxins produced by the spore-bearing saprophytes get in their work. Le Roy claims to have positive knowledge that these saprophytes produce toxins and endotoxins, which, when injected into the living animal, produce varying degrees of paralysis; and, also that the action is slow and insidious under ordinary circumstances. There is one point on which he is most certain of his position; that is, that these toxins have a selective attraction for the brain and nerve tissue.

Boston Medical and Surgical Journal

September 9

9 *Simple Inspection of the Eyes as an Aid in General Diagnosis. H. B. Stevens, Boston.
10 Importance of Distinguishing Simple Round Ulcers of the Duodenum from Those Ulcers which Involve the Pylorus or are Above it. E. A. Codman, Boston.
11 Studies in Psychopathology (concluded). B. Sidis, Brookline, Mass.
12 Sudden Deaths in a Synopsis of Twenty Years' Medicolegal Work. F. H. Canedy, Shelburne Falls, Mass.
13 *The Queen's Closet Opened. G. W. Myers, Boston.
14 Gunshot Wound of the Head. C. W. Bartlett, Marshfield, Mass.

9. **Inspection of Eyes in General Diagnosis.**—Stevens points out that the eyes from the vantage ground of their wonderfully perfect anatomic and physiologic position are especially adapted to reflect many of the most important changes of the system, and a large majority of those signs may be revealed by simple inspection merely. Moreover, the eyes, more than other organs, are at all times most easily and conveniently inspected, and simple but intelligent inspection may give important information concerning various physical and functional body processes.

13. **The Queen's Closet Opened.**—Myers gives a brief review of this volume published in 1656, and containing formulas and recipes originally collected for Henrietta Marie, the wife of Charles I of England.

Medical Record, New York

September 11

15 Rôle of Visual Function in Animal and Human Evolution. G. M. Gould, Ithaca, N. Y.
16 Medical Management of Degenerate Children. R. H. Porter, Chicago.
17 *Surgical Treatment of Diarrhea. S. G. Gant, New York.
18 Village Treatment of Nervous Invalids. L. P. Clark, New York.
19 The Liquor Problem: Some Suggestions for its Solution. C. A. Rosenwasser, Newark, N. J.
20 Amount of Lung Involvement at the Onset of Pulmonary Tuberculosis. H. L. Barnes, Wallum Lake, R. I.

17. **Surgical Treatment of Diarrhea.**—Gant doubts if more than 10 per cent. of the persons suffering from chronic diarrhea are curable by means other than through bowel irrigation, as practised through the anus, or from above through the appendix or cecum. Of those who do not respond to direct treatment of the colon, the cause of the trouble in a number of cases is located in the small intestine, stomach, liver or pancreas. Gant says he has cured many persons suffering from chronic diarrhea without an operation, by the daily irrigation of the bowel with different solutions. The following procedures have been resorted to with more or less success in the treatment of simple and other ulcerative colitis inducing chronic diarrhea: (1) Resection; (2) intestinal exclusion; (3) colostomy; (4) appendicostomy, and (5) Gant's cecostomy with irrigation of the small intestine. The latter procedure is carried out as follows: Through a two-inch muscular incision made directly over the cecum, it and the lowermost part of the ileum are withdrawn and the edges of the wound covered with sterile gauze handkerchiefs. The cecum is scarified and clamped with rubber-covered forceps to prevent soiling of the wound when the bowel is opened. Four linen or silk seromuscular purse-string sutures are inserted in the anterior wall of the cecum at or outside the longitudinal band directly opposite the ileocecal valve, when the bowel is quickly opened inside the suture line by using the knife for the outer coats and the scissors for the mucosa. The bowel is grasped at the juncture of the large and small intestine and held in such a

way that the ileocecal valve rests between the thumb and the fingers of the left hand. A Gant catheter guide is then introduced through the incision and carried directly across the cecum, and then suddenly guided through the ileocecal valve into the small intestine by the aid of the thumb and fingers, placed there for this purpose. The guide is then held by an assistant while the obturator is removed and a catheter, No. 12, is introduced into the small bowel. The guide is then removed and the catheter is held by an assistant until it has been anchored to the cecum by a catgut silk suture to prevent its slipping out. A short piece of catheter three inches long is then introduced into the cecum, beside the one which enters the small bowel, for an inch or more, when both catheters are fastened together by a narrow band of adhesive plaster placed around them, on a level with the skin. The clamp is now removed from the cecum and the purse-string sutures are tied; this inverts the edges of the bowel about the tubes, each stitch in its turn causing a still further circular infolding of the bowel, all together forming a cone-shaped valvular projection all around the catheters which effectually prevents the escape of the feces. The cecum is scarified and anchored to the abdominal wall by through-and-through suspension suture or by chromicized catgut stitches which include the peritoneum and fascia. The wound in the abdomen is closed by the layer method, after which the catheters are stitched to the skin or preferably retained in place by a narrow strip of adhesive plaster between them and attached to the skin. Ordinary five-cent cravat clamps are snapped over the ends of the catheters to prevent leakage, after which the operation is completed, applying the ordinary dry dressings, which are held in place by adhesive strips.

Lancet-Clinic, Cincinnati

September 4

21 Ectopic Pregnancy. A. Haarlammert, Loveland, Ohio.
22 Certain Antagonism for Opium Narcosis. T. H. Williams, Germantown, Tenn.
23 Advancement of Paralyzed Muscle for Cosmetic Purpose. V. Ray, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

August 27

24 Should Virginia Impose a License Tax on Physicians? G. A. Stover, South Boston.
25 *Treatment of Acute Diarrhea in Infancy. J. B. Nowlin, Richmond.
26 Uncinariasis. J. R. Perkins, Spencer.
27 Musings of a Medical Man. R. H. Garthwright, Vinton.
28 Relation of the Pharmacist to the Practise of Medicine. W. C. Marshall, Staunton.

25. **Acute Diarrhea in Infants.**—In cases of diarrhea due to fermentation, Nowlin uses mercury bichlorid in a solution of one grain to four ounces of water, giving ten to fifteen drops every four hours until the stools become yellow in color and remain so. This is usually the case in from twenty-four to forty-eight hours. Then the dose is decreased, the aim being to give just enough mercury to keep the stools in this state. Food is withheld for the first twenty-four hours, at the beginning of which the usual purge of castor oil is given. At the expiration of this time, the usual food is resumed, but the mercury is kept up for a week or more. Irrigation is done in some cases, but Nowlin thinks that in this form of diarrhea, irrigation is generally overdone.

Southern California Practitioner, Los Angeles

August

29 *Surgery in Infancy. S. Stillman, San Francisco.
30 Pelvic Infection Following Labor. F. M. Bruner, Santa Ana.
31 *Diet Regulation for Dyspeptics. W. P. Millspaugh, Los Angeles.
32 *The Physician's Duty to the Public. J. W. Foss, Phoenix, Ariz.
33 Medical Treatment of Disease of the Biliary Tract. E. W. Hanlon, Los Angeles.
34 *Straw Mattress Urticaria. J. Goldberger, U. S. P. H. and M.-H. Service, and J. F. Schamberg, Philadelphia.
35 Gastric and Duodenal Ulcer. E. J. Claypole, Pasadena.

29 and 32. Abstracted in THE JOURNAL, July 17, 1909, p. 228.

31. **Diet Regulation.**—Millspaugh makes a very good point by saying that the regulation of diet for dyspeptics is not a simple thing. It will not do to tear off a printed diet-list for "ulcer" or "gastritis," or "hyperchlorhydria," and hand it to the patient. We must feed the whole patient, not his stomach or his liver or his intestines alone. To do it intelligently we must know the patient from head to foot, inside and outside; and we must know what the different foods will do.

34. Abstracted in THE JOURNAL, Aug. 14, 1909, p. 573.

Annals of Otology, Rhinology and Laryngology, St. Louis

June

36 Treatment of Cancer of the Larynx. O. Chiari, Vienna.
37 Study of the Anatomic Relations of the Optic Nerve to the Accessory Cavities of the Nose. H. W. Loeb, St. Louis.
38 Diseases of the Eye and Orbit Secondary to Pathologic Changes in the Nose and Accessory Sinuses. C. R. Holmes, Cincinnati.
39 Orbital Complications of Disease of the Frontal Sinus. H. F. Hansell, Philadelphia.
40 Ocular Symptoms of Diseases of the Nasal Sinuses. W. C. Posey, Philadelphia.
41 Extralaryngeal Causes of Laryngeal Symptoms. F. Smithies, Ann Arbor.
42 Clinical and Microscopic Diagnosis of Tuberculosis of Tonsils. L. M. Hurd, and J. Wright, New York.
43 Diagnosis and Surgical Treatment of Abscess of the Temporosphenoidal Lobe. W. S. Bryant, New York.
44 Removal of Tonsil (complete) in its Capsule. F. C. Todd, Minneapolis.
45 Method of Precision for Inflating the Tube and Tympanum. T. Hubbard, Toledo, Ohio.
46 Methods of Opening the Maxillary Antrum, with Presentation of New Instrument. J. O. Roe, Rochester, Minn.
47 Probable Case of Sarcoma of the Sphenoid Sinus. D. Roy, Atlanta, Ga.

Old Dominion Journal of Medicine and Surgery, Richmond

August

48 The Dead Body. W. H. Taylor, Richmond.
49 Extraperitoneal Implantation of the Ureters into the Rectum in Exstrophy of the Bladder. S. McGuire, Richmond.
50 The Cardiovascular Changes in Lithemia. M. Call, Richmond.
51 *Localization of Foreign Bodies: An Unusual Case. D. D. Talley, Richmond.
52 *Tincture of White Soap. F. P. Dunnington, Charlottesville.

51. **Localization of Foreign Bodies.**—Talley reports a case of needle in the buttock in which previous attempts at extraction were unsuccessful. The needle was localized by the *x*-ray, and was found to be imbedded in the sciatic nerve. It was removed by operation.

52. **Tincture of White Soap.**—The formula proposed by Dunnington for this preparation is as follows:

R.	gm. or c.c. For 1 gallon.
White Castile soap (Conti's)	1,200
Ammonia stronger	100
Alcohol	1,400
Water, dist.	1,300

The specific gravity of this mixture is 0.97, which is identical with that of tincture of green soap. To make one gallon: Mix the liquids for it in a one-gallon jar and then add the soap, previously cut into coarse shavings. Crowd all the soap into the jar and cover it with a glass plate. After 12 hours stir, and again stir after some hours. Allow to settle 12 hours and then filter, decant or syphon off the clear liquid into a can which may be kept closed. There will remain a few ounces retaining the impurities of the soap, which may be used for less particular washing. If this liquid is exposed to evaporation for a few hours, ammonia and alcohol escape, and a mass of the consistency of green soap will be obtained. While this preparation is said to be free from the objections to tincture of green soap, it presents the additional advantage of costing but $1.50 a gallon, and, if the alcohol is obtained tax free, the cost will be about 60 cents a gallon, while tincture of green soap will cost $1 or more.

Wisconsin Medical Journal, Milwaukee

August

53 *Operations on Handicapped Patients. G. W. Crile, Cleveland, Ohio.
54 The State University, the Medical Profession, and the Public. C. R. Bardeen, Madison.
55 Treatment of Tuberculosis in Those who have to Work Indoors. T. Willett, West Allis.
56 Relation of Ocular Defects to Diseases of the Nose and Accessory Sinuses. J. M. Cooke, Darlington.
57 Toxicity of Human Sweat. C. A. Baer, Milwaukee.

53. Abstracted in THE JOURNAL, Aug. 21, 1909, p. 647.

Chicago Medical Recorder

August

58 Contemporary Workmen's Compensation. W. H. Allport, Chicago.
59 *Dietary Control of Gastrointestinal Disorders. R. W. Webster, Chicago.
60 *Purpura Hemorrhagica. A Neurotoxic Form Due to a Syphilitic Nerve Involvement Plus a Toxic Action from Potassium Iodid. W. F. Bernart, Chicago.

59. **Gastrointestinal Disorders.**—Webster tries to show that the dietary treatment of gastrointestinal diseases must be based on a definite knowledge of the normal gastroenteric functions rather than on the many empiric regulations which have been laid down in times when our knowledge was not so exact regarding the influences of the various ferments on the different types of food or of the interrelations of the activities of the stomach and bowels. Observing the perversions of function, which may not always be outlined clearly, is the only certain method which can lead to a scientific dietary control. More careful study of the patient, instead of the too frequent reliance on empiricism, will reward the practitioner with the gratitude of his patient, and the patient will have a much higher opinion of the physician, as well as a more nearly normal gastrointestinal tract.

60. **Purpura Hemorrhagica.**—Bernart's case of purpura hemorrhagica was a neurotoxic form due to a syphilitic nerve involvement, plus a toxic action from potassium iodid. The hemorrhagic spots were only and entirely confined to a portion of the body affected by a syphilitic process within the spinal canal; the long axis of the oblong lesions all ran horizontally. An examination of the scrotum showed a hemorrhagic infiltration into the skin of the scrotum, both thighs and legs. The upward extension of the eruption was definitely limited to a surface line drawn from trochanter to trochanter; a few scattered lesions on the posterior and lateral aspects of the buttocks extended above the line. Below, the eruption was definitely marked as far as the lower edges of the calves of the legs; below this it became scattered and disappeared at the ankles. Most of the spots were oblong in shape, the largest being about 1¼ by ¾, and all assumed a horizontal position. None of the spots showed a deep ecchymosis, but were of a mottled appearance due to an imperfect infiltration into the skin.

There being but little doubt that the spots were due to one of the drugs given, it was decided to discontinue the iodid to ascertain which produced the lesions. After the lapse of a week the spots disappeared, a slight mottling of the surface alone being visible. Twelve days after the beginning of the treatment, the patient was again placed on the potassium iodid. During this second course he was given larger doses, 2 grams, three times daily. Four days after readministering the iodid the eruption again occurred and was confined to the same regions as before and the long axis of the spots also ran transversely.

A third course of the iodid was started on the twenty-first day; this was followed in a few days by a recurrence of the purpura showing the same characteristics as its predecessors, with the exception that the spots were not so numerous or so clearly defined. Before the inauguration of this third course the patient showed a decided improvement in his general condition. Thirty-one days after the beginning of the treatment the fourth course of the iodid was given; this was followed by a few ill-defined spots confined to the thighs and buttocks. A few weeks later a fifth course was tried, but it failed to produce any lesions. The real interest in this case is that the iodid alone did not produce the purpura, neither did the lesions within the spinal canal; the phenomena occurred through the combined action of the two, namely, through the toxic action of the iodid on an area influenced by some syphilitic nerve involvement which undoubtedly was situated in the spinal canal between the first and fourth lumbar vetebræ and involved in the ilioinguinal, genitocrural, external cutaneous, obturator and anterior crural nerves. The peculiar arrangement of the spots remains unaccounted for.

Alabama Medical Journal, Birmingham

August

61 Gastric and Duodenal Ulcer Treated Surgically. J. M. Mason, Birmingham.
62 Appendicitis, with Pus and Peritonitis. W. T. Berry, Birmingham.
63 Surgical Treatment of Prostatic Abscess and Hypertrophy. G. Torrance, Birmingham.
64 Early Recognition of Pneumonia and the Differentiation from Abdominal Conditions. T. C. Donald, Bessemer.
65 An Interesting Case. H. L. Appleton, Birmingham.
66 Pellagra—Honor to whom Honor is Due. C. M. Rudolph, Birmingham.

Albany Medical Annals

September

67 Hypodermatic Medication in Modern Therapy. S. L. Dawes, Albany, N. Y.
68 Acute Diffuse Suppurative Peritonitis. J. E. Sadlier, Poughkeepsie, N. Y.
69 Personal Experience with Gastroenterostomy. E. A. Vander Veer, Albany, N. Y.
70 Spinal Anesthesia. F. E. Lettice, Ossining, N. Y.
71 Tuberculosis of the Breast. F. J. Resseguie, Saratoga Springs, N. Y.

Journal South Carolina Medical Association

August

72 *The Occidental-Oriental Health Problem. L. Cofer, U. S. P. H. and M.-H. Service.
73 Etiology, Prevention and Treatment of the More Common Tropical Diseases Encountered in the Canal Zone. J. A. Hayne, U. S. Army.
74 Local and Constitutional Treatment of Corneal Ulceration. C. W. Kollock, Charleston.
75 Preventable Blindness. E. F. Parker, Charleston.
76 Musca Domestica: The Common House Fly. F. A. Coward, Columbia.
77 *Prevalence of Pellagra in the United States. C. H. Lavinder, U. S. P. H. and M.-H. Service.
78 *Etiology of Pellagra. C. H. Lavinder, U. S. P. H. and M.-H. Service.

72. Abstracted in THE JOURNAL, June 5, 1909, pp. 1870, 1971.

77. **Pellagra in the United States.**—This is a statistical and geographic note, with an excellent American bibliography appended.

78. **Etiology of Pellagra.**—Lavinder holds that the cause of pellagra is essentially unknown; that the idea in one form or another, of an etiologic relation between pellagra and the use of maize as a food is held by the majority of students of the disease; that such an idea is almost as old as the history of the disease itself; that it rests to some extent on the observations and experimental work of many able men; and that it seems unwise to hold to such views so dogmatically as to exclude investigation along other suggestive lines.

Southern Medical Journal, Nashville

August

79 Laboratory Methods in Diagnosis of Typhoid. E. G. Wood, Nashville.
80 Bacteriology of Typhoid. W. Litterer, Nashville.
81 Diet and Prophylaxis in Typhoid. S. Harris, Mobile, Ala.
82 Treatment of Typhoid. J. G. Cecil, Louisville.
83 Surgical Complications of Typhoid. W. D. Haggard, Nashville.
84 *Metastases in Carcinoma of the Breast. C. A. Robertson, Nashville.
85 *Teaching of Pharmacology in the Smaller Medical School. W. deB. MacNider, Chapel Hill, N. C.
86 Differential Diagnosis and Treatment of Occupation and Other Parakinetisms of Organic and Psychic Origin. T. A. Williams, Washington, D. C.
87 Lung Puncture as a Therapeutic Measure. T. J. Coble, Shelbyville, Tenn.
88 *Treatment of Tetanus with Special Reference to the Use of Magnesium Sulphate. G. J. Winthrop, Mobile, Ala.

84. **Metastases in Carcinoma of the Breast.**—In June, 1908, Robertson amputated the right breast for adenosarcoma. Perfect coaptation of the wound was secured, and in ten days union was complete throughout. The patient made an uneventful recovery, but continued to suffer with difficult locomotion, muscular pains and soreness, which were supposed to be due to rheumatism. Nov. 26, 1908, while endeavoring to get out of bed, she sustained a fracture of the humerus at its middle, occasioned by the slightest muscular effort. Under appropriate treatment perfect union resulted. This patient came under observation again April 3, 1909, having been confined to her bed for about two months. She was now unable to move her body in any direction, there was marked kyphosis and evidence of mediastinal involvement. There was no paralysis of the lower extremities, nor interference with the bladder function. The patellar reflex was somewhat exaggerated. Fracture of the humerus occurred spontaneously, without traumatism.

85. **Teaching Pharmacology in Smaller Medical Schools.**—Macnider emphasizes that a laboratory course in pharmacology for 40 hours, which includes the use by the students of frogs, turtles and higher animals, can be given anywhere with an expenditure of not over $60 a year, provided the physiologic apparatus is used. The initial expenditure for other necessary apparatus and the construction of a simple dog house, need not be over $100. The value of such a laboratory course, simple as it is, is difficult to estimate. Short conferences with each group of men concerning experiments and results obtained gives the instructor a chance to study each individual

in the group and to aid in the development of the weaker members. The operative work gives the men an insight into operative technic. Lastly, it trains them to observe closely, to make accurate records, to seek for the reason, for results, and creates in them an enthusiasm for investigation and scientific medicine which must do much to direct them in their future work.

88. **Treatment of Tetanus.**—Winthrop reports a case of tetanus treated successfully by the injection of magnesium sulphate into the spinal canal.

Archives of Pediatrics, New York

August

89 *Urine in the Gastrointestinal Diseases of Infancy. J. L. Morse and B. Crothers, Boston.
90 The New-Born. H. E. Tuley, Louisville.
91 Treatment of Diphtheria, with Special Reference to the Prevention of Heart Failure. L. Porter, San Francisco.
92 Pathology of Thymic Hyperplasia and the Status Lymphaticus. A. S. Warthin, Ann Arbor, Mich.

89. **Urine in Gastrointestinal Diseases.**—The conclusions drawn by Morse and Crothers from a study of the urine in 300 cases are as follows: Albuminuria is found in from 8 to 10 per cent. of babies ill with various diseases of the gastroenteric tract. It is found somewhat more often in acute than in chronic diseases. Judging from the examination of the sediment, the pathologic condition in the kidneys almost never progresses beyond that of acute degenerative nephritis (often known as cloudy swelling or active hyperemia). Infection of the urinary tract, resulting in the symptom-complex commonly known as pyelitis or pyelonephritis, is far more common than acute parenchymatous or interstitial nephritis. In the chronic diseases there is no relation between the albuminuria and the mortality or symptomatology. The mortality is higher in the acute diseases when albuminuria is present than when it is not. The presence of albuminuria in an individual case does not, however, materially modify the prognosis in that case. Edema occurring in the course of diseases of the gastroenteric tract is not connected with the condition of the kidneys. There is nothing to suggest any causative relation between the affection of the kidneys and such symptoms as restlessness, convulsions and stupor. These are due to toxemia and not to uremia.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

August

93 Some Convenient Laboratory Apparatus. A. C. Crawford and H. V. Honn, Washington.
94 *Effects of Caffein and Sodium Bicarbonate on Toxicity of Acetanilid. W. Hale, U. S. P. H. and M.-H. Service.
95 Anesthesia by Intracerebral Injection of Magnesium Chlorid. V. E. Henderson, Toronto, Can.
96 *Ergot. W. H. Cronyn, and V. E. Henderson, Toronto, Can.
97 Pharmacologic Action of Some Phthaleins and their Derivatives, with Special Reference to their Behavior as Purgatives. J. J. Abel, and L. G. Rowntree, Baltimore.
98 Clavin, Vahlen's Active Constituent of Ergot. D. D. Vanslyke, New York.
99 Effect of Collodion on the Amanita Hemolysin. W. W. Ford, Baltimore.
100 Distribution of Poisons in the Amanitas. W. W. Ford, Baltimore.
101 Pharmacologic Action of Iodbenzoate, Iodosobenzoate and Oxyiodosobenzoic Acids. A. S. Loevenhart, and W. E. Grove, Madison, Wis.

94. **Toxicity of Acetanilid.**—Hale found by experimentation on the hearts of both warm and cold-blooded animals that caffein is of little or no benefit in acetanilid poisoning in so far as the energy is concerned, and in some cases apparently exerts a harmful effect. The same is also true in the case of blood-pressure. On the other hand, there appears, especially in the dog, to be a well-established antagonism on the heart rate. This antagonism, however, would probably be insufficient to be of any value in cases of poisoning in man. Feeding experiments demonstrated the absence of antagonism between acetanilid and caffein, in all cases the addition of the latter drug causing death more quickly or with a smaller dose. This, in connection with the imperfect antagonism to the heart action, makes the use of caffein in acetanilid mixtures especially questionable. Sodium bicarbonate, in contrast, lessens the toxicity of acetanilid, both in its action on the heart and on the intact animal, increasing the duration of life or making the use of a larger dose of acetanilid necessary to cause death.

96. **Ergot.**—The results obtained from experiments lead the authors to advise the use of ergot in certain emergencies, namely, in shock and postpartum hemorrhage. In both these cases Cronyn and Henderson would use the drug intravenously; but the effect should be watched carefully and care taken not to repeat the dose too frequently. They conclude also that: 1. Most galenical preparations of ergot contain a considerable amount of the active principles, but do not show any great or marked action when given by mouth. The usually recommended doses are much too small. 2. Ergotoxin is a highly active alkaloid and has the properties of ergot most desired in medicine. 3. Ergotoxin brings about a long-enduring contraction of the walls of arterioles, and increases the movements of the uterus. 4. This action is feeble when ergotoxin is given by mouth, but more marked in subcutaneous injections and much more marked when given intravenously. 5. In cases in which a rapid and certain action is wished, either in shock or in postpartum hemorrhage, they would recommend intravenous administration. They recommend, further, if the effect proved too evanescent to achieve the results desired, that suprarenal extract be administered subsequently in repeated small doses.

Woman's Medical Journal, Cincinnati

August

102 Progress of Hygiene. A. Eichelberger, Sioux City, Iowa.
103 Tuberculosis: Etiology and General Symptomatology. L. H. Branson, Iowa City.
104 Early Diagnosis of Tuberculosis. A. Safely, Cedar Rapids, Ia.
105 Tuberculin Test. M. K. Heard, Iowa City, Iowa.
106 Home Treatment of the Individual. C. Whitmore, Cedar Rapids, Iowa.
107 Sanatorium Treatment of Tuberculosis. J. B. Hudson, Iowa City, Iowa.
108 Treatment of Tuberculosis along the Line of Social Needs. S. H. Scott, Des Moines, Iowa.

Ophthalmic Record, Chicago

August

109 Case of Migraine Involving the Abducens Nerve. C. A. Veasey, Spokane, Wash.
110 *Should we Operate in High Degrees of Myopia? J. S. Wyler, Cincinnati.

110. **Operation in High-Grade Myopia.**—The following indications alone, according to Wyler, seem to warrant operation: (1) A myopia of at least 14 diopters; this is the minimum, for 18-20 D. give even better results; (2) the degeneration of the fundus must not be very far advanced or the vitreous greatly diseased, for under such circumstances good vision can hardly be expected; (3) if the patient can follow his daily occupation without discomfort, nothing should be done. It is in those cases in which the visual acuity is so diminished because of the decreasing size of the objects, that the interference is justified in order to allow the myope to continue at his trade; (4) patients over 40 years old should not be operated on, unless it is absolutely imperative, for after this age a needling and linear extraction will not meet the requirements, and a simple extraction in a high myope is not only exceedingly difficult, but hazardous. The extraction in capsule, after the method of Major Smith, is hardly applicable, because of the fluid vitreous present and its almost certain loss.

Laryngoscope, St. Louis

August

111 *An Abundant Meatal Flap for the Radical Operation. F. Whiting, New York.
112 The Heath Operation for Chronic Aural Suppuration. E. C. Ellet, Memphis.
113 Removal of a Bullet from the Inner Wall of the Middle Ear. T. V. Moore, Huntington, W. Va.
114 Importance of the Thorough Study of the Nasopharynx in the Treatment of Diseases of the Ear. F. R. Packard, Philadelphia.
115 Clinical Diagnosis and Operative Procedure in Intralaryngeal Carcinoma. C. Jackson, Pittsburg.
116 Microscopic Diagnosis of Intralaryngeal Growths from a Practical Standpoint. J. Wright, New York.
117 Orbital Route to the Accessory Sinuses. P. Fridenberg, New York.
118 Unusual Cases of Frontal Sinusitis. L. M. Hurd, New York.
119 Deep Cervical Abscess from Stricture of the Esophagus: Purpura Hemorrhagica, with Abscess of the Deep Cervical Lymphatics. J. J. Kyle, Indianapolis.

111. **Meatal Flap.**—For radical mastoid work the method of construction of the flap employed by Whiting is as follows: The helix of the auricle is firmly grasped between the thumb and finger and drawn upward, forward and somewhat away from the skull. A sharp-pointed narrow-bladed bistoury is then used

with which to transfix the auricle at the margin of the meatus in the ventricle meridian above, just where the meatus widens out into the concha. When the transfixion is completed, the knife, without being withdrawn from the wound, is made to follow the periphery of the margin of the meatus around its posterior half to the vertical meridian below, in the form of a semicircular or crescent-shaped incision. Caution should be observed when making this incision that the handle of the knife be held as close to the face of the patient as convenience of manipulation will permit, for the more nearly the handle of the knife is kept horizontal with the face, the more deeply will the blade traverse the tissue and the more abundant will be the resulting flap. The tragus should also be protected, lest if it be prominent—as it sometimes is—it may be wounded by the heel of the knife.

Having completed the incision around the posterior border of the meatus, the next step in the construction of the flap is to make a second incision at right angles to the first, extending the entire length of the fibrocartilaginous meatus along the floor. This incision is most easily and accurately completed by cutting from within the meatus outward. The blade of the knife is inserted into the meatus through the incision first made and at its lower angle; thence the cut extends directly downward, dividing the cartilaginous meatus throughout its entire length, and freeing the flap so that it may be drawn upward and backward into position for stitching. Before the flap is stitched in its permanent place, however, it should be divested of all unduly thick and redundant tissue, and of such fragments of cartilage as would in any wise interfere with its pliability and accurate adjustment. Having been thus prepared, the flap is drawn upward and backward, and applied in such a manner as to most advantageously cover the supero-posterior portion of the bone cavity, with the contour to which it naturally adapts itself. A single stitch of catgut carried through its upper margin and attached to the border of the temporal fascia just below the temporal ridge, serves as an efficient support to the flap, while the gauze packing with which the wound is dressed affords the necessary pressure to bring the adhering surface into firm contact with the bony wall which it is designed to cover.

Journal of Indiana State Medical Association, Fort Wayne

August

120 Early Diagnosis and Treatment of Superficial Malignant Growths. J. N. McCoy, Vincennes.
121 Use of the Giant Magnet in Removing Foreign Bodies from the Eye. C. W. Conger, Indianapolis.
122 Pathology of the Seminal Vesicles and Prostate with Suggestions of the Necessity for Surgical Treatment. C. E. Barnett, Fort Wayne.
123 Law and Medicine. C. A. de Bruler, Evansville.
124 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
125 Lymphatic Enlargement of the Neck. B. F. Kuhn, Elkhart.
126 Exophthalmic Goiter. F. O. Dorsey, Indianapolis.
127 Dermatitis Ditropenotus Aureoviridis. L. Y. Rawles, Huntertown.

American Medicine, New York

August

128 *Dangers of Tent Shelters for Consumptives in Summer. C. E. Woodruff, U. S. Army.
129 Timidity and Insanity (continued). M. K. Isham, Columbus, Ohio.
130 The Holmes Centenary. H. E. Lewis, New York.
131 *A New Kind of Gynecologic Massage and its Indications. R. Hogner, Boston.
132 Expert Chemistry in the Development of Life, and its Bearing on Medical Science. J. Clements, Wichita, Kansas.
133 Gun Deafness: A Danger. G. T. McMaster, New Haven, Conn.
134 The Spleen. E. H. Fiske, Brooklyn.
135 Deficient Excretion of Urinary Solids. W. F. Waugh, Chicago.
136 The Parisian Clinics. T. A. Williams, Washington, D. C.

128. **Tent Shelters for Consumptives.**—Woodruff warns against the use of tents in the hot light months. He says that there is no doubt that the tuberculosis mortality is unduly large, and that it is avoidable if we will only avoid tents and keep the patients cool and shaded.

131. **Gynecologic Massage.**—In the method employed by Hogner the patient is lying about eighteen inches above the floor, on a double incline plane, the head and chest comfortably elevated, the abdomen and the legs very much raised, thus getting the best relaxation of the abdomen and moving the intestines away from the massaging. The operator sits at the patient's left side, on the hard couch, his left hand and forearm in her median line, the elbow resting on the couch. He examines and gives the massage as does Thure Brandt, but uses mostly vibratory massage by means of a motor as introductory to the manual. The vibrations of the machine are transmitted through the abdominal wall and the massaged tissues to the fixating fingers, but pass only a little outside this area, as the vibratory massage is practically local. Hogner gives the massage centripetally, as Brandt did, but begins with the manual and finishes with the vibratory (instrumental). This "new kind of gynecologic massage" (the instrumental, vibratory one) has many times proved curative, he asserts, when other treatments, even surgical, have failed to get permanent, or, for the patient, satisfactory results.

Medical Herald, St. Joseph, Mo.

August

137 *Use of Carbon Dioxid Snow in Dermatology. R. L. Sutton, Kansas City, Mo.
138 Immunity: A Possible Means for its Better Comprehension. J. Block, Kansas City, Mo.
139 A Department of Health, and its Relative Effect on Life Expectancy. L. H. Montgomery, Chicago.
140 Ophthalmologic Experience. B. Pitts, St. Joseph.
141 Some Reasons why I Dispense. G. B. Dorrell, Republic, Mo.

137. Published in *Dublin Journal of the Medical Sciences*, July, 1909.

St. Louis Medical Review

August

142 *Experimental Arteriosclerosis. L. K. Baldauf, St. Louis.
143 The Present-Day Problem of Tuberculosis. O. H. Brown, Mt. Vernon, Mo.
144 Chronic Myocarditis. W. P. Elmer, St. Louis.
145 *Stuttering in School Children—Its Prevalence and Treatment. E. B. McCready, Pittsburg, Pa.

142. **Arteriosclerosis.**—Baldauf reviews the literature on this subject but offers nothing new. He has examined carefully the aortas of a number of large rabbits used at the laboratory of the St. Louis city bacteriologist in the Pasteur treatment for hydrophobia. In none did he find a lesion in the aorta.

145. **Stuttering.**—McCready endorses the so-called melody cure devised by Scripture.

Western Medical Review, Omaha

August

146 Will as a Therapeutic Agent. J. M. Aikin, Omaha.
147 Extra-Gastric Lesions Simulating Gastric Ulcer. A. F. Jonas, Omaha.
148 Acute Anterior Poliomyelitis. F. E. Coulter, Omaha.
149 Helpful Hints to the Busy Practitioner. F. A. Wells, Keasaw, Neb.

Detroit Medical Journal

August

150 Therapeutic Application of Ovarian Extract. W. H. Morley, Detroit.
151 Value of Reflexes in Diagnosis. J. S. Risien-Russell, London, Eng.
152 Fibroma of Anus and Rectum. S. Stevens, Battle Creek.
153 Extensive Lateral Sinus Thrombosis: Operation including Ligature of the Internal Jugular Vein: Recovery. E. Amberg, Detroit.

American Journal of Urology, New York

August

154 *New Aphrodisiacs. V. G. Vecki, San Francisco.
155 Hypertrophy of the Prostate and its Treatment. C. Ostermann, Braunschweig, Germany.
156 *Prostatic Calculi. J. L. Thomas, Cardiff, Wales.
157 Prostate Weighing Seventeen Ounces Removed by the Suprapubic Route. A. Fullerton, Belfast, Ireland.

154. **New Aphrodisiacs.**—Among the aphrodisiacs of old stands first, and most important, cantharides. No real physician would use these preparations, because, as Vecki points out, we know that if cantharides is an aphrodisiac, then acute gonorrhea with an inflammation, causing erections, is also one. Experience teaches that strychnin, phosphorus, quinin and iron have no special action on the sexual desire nor on the erective power, but may act indirectly. Cannabis indica, opium and other narcotics certainly are not aphrodisiacs in the sense of heightening sexual power, but may seem to do so by dulling the inhibitive centers which so often interfere untimely with the desired erections. We do not expect much of an action from damiana, musk or other spices, while alcohol and a rich, especially a prominently nitrogenous diet are like two-edged knives. They do only harm in all those high-livers who endeavor to stimulate the activity of their autointoxicated

organs by stuffing themselves with oysters, caviar, cheese, ale, porter, and many other exhilarating substances. While it is evident that there can be no such drug as an aphrodisiac, industrious fellows have tried to supply the ever-present demand. Innumerable preparations have been thrown on the market. Of some of them we are reminded at regular intervals by most alluring pamphlets and testimonials. One of the newer preparations for which powerful aphrodisiac properties are claimed is yohimbin. Vecki claims that yohimbin has no effect in healthy persons, and showed no effect with any of his impotent patients. In his opinion yohimbin has no value as an aphrodisiac. In fact, he warns against its use. Vecki has also used muiracithin in a number of cases. The patients were none the worse for using muiracithin, but none of them noticed the slightest effect on their sexual powers and feelings.

156. **Prostatic Calculi.**—Thomas reports three cases illustrating the advantages of his method for their successful removal by the combined suprapubic and perineal routes.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

August

158 Cholelithiasis: Gallstone Disease. J. C. Hemmeter, Baltimore.
159 The Therapeutics of Pain. L. F. Flick, Philadelphia.
160 *Present Knowledge of the Action of Cathartic Drugs. F. P. Underhill, New Haven, Conn.
161 *Diabetes Mellitus as an Infectious Disease. A. King, Portland, Maine.
162 *The Hypnoidal State in Psychotherapeutics. B. Sidis, Brookline, Mass.
163 Superficial Dermatitis of the External Auditory Canal. C. J. Blake, Boston.
164 Arthritic Muscular Atrophy. J. V. Shoemaker, Philadelphia.
165 Border of Success—Importance of Careful Attention to Details in Eye and Ear Work. L. H. Buxton, Oklahoma City, Okla.
166 Severe Type of Typhoid with Management and Treatment. B. L. Hale, Philadelphia.
167 Action of Glandular Extracts on the Pupil. I. Ott and J. C. Scott, Philadelphia.
168 Antidotal Effects of Alcohol on Phenol. H. J. Novak, Philadelphia.

160. Abstracted in THE JOURNAL, June 5, 1909, p. 1864.

161. Abstracted in THE JOURNAL, May 29, 1909, p. 1782.

162. Published in the *Journal of Abnormal Psychology*, June-July, 1909.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 28

1 Peripheral Circulation and its Treatment. Sir J. Barr.
2 The Crescendo Murmur of Mitral Stenosis. E. M. Brockbank.
3 *The Blood in Chorea and Rheumatism. C. J. Macalister.
4 *Enterospasm Simulating Acute Obstruction. F. E. Wynne, and F. P. Sturm.
5 Achondroplasia Occurring in a Chinaman. G. Moir.
6 *Dercum's Disease. G. McMullan.
7 Latent Infections by the Diphtheria Bacillus. P. W. Williams, R. M. Buchanan, D. Forbes, and R. V. Clark.
8 Endemicity of Influenza. A. W. Gilchrist.
9 Connection Between Cattle Fairs and Tuberculosis in Ireland J. D. Wynne.
10 Early Diagnosis of Tuberculosis. A. Calmette.
11 Influence of the Site of Inoculation. L. Noon.
12 *Inoculation Treatment of Tuberculosis. D. W. Carmalt-Jones.
13 *Bacteriology and Vaccine Treatment of Acne Vulgaris. A. Fleming.
14 Bacteriology of Common Colds. C. H. Benham.
15 Treatment of Edema. H. D. Rolleston.
16 Facts and Fancies in Pharmacology. W. E. Dixon.
17 Action of the Pressor Substances in Putrid Meat, Placenta, and Ergot on the Heart and Uterus. W. E. Dixon and H. H. Dale.
18 Effect on the Leucocyte Count Produced by Thiosinamin Injections. F. J. Charteris.
19 New Member of the Saponin-Digitalin Group of Glucosides. B. Moore, F. W. Baker-Young and S. C. M. Sowton.
20 Lesions of the Mucous Membranes in Cutaneous Disease. Sir M. Morris.
21 *Acanthosis Nigricans. R. B. Wild.
22 *Idem. G. St. George, and G. M. Melville.
23 Preventive Treatment of Puerperal Eclampsia. A. M. Bankier.
24 *Continuous Proctoclysis. H. J. Paterson.
25 Soamin (Sodium Para-Aminophenylarsonate) in Syphilis. A. Fraser.

3. **The Blood in Chorea and Rheumatism.**—Macalister is of the opinion that there is less real association between chorea and rheumatism than is generally thought to be the case, and that chorea may be due to an infective toxemia of distinctive character. The results of his experiments show (1) that there appears to be in the blood plasma of patients suffering from chorea a poison which is toxic to the leucocytes of healthy persons, and (2) that in rheumatism the plasma does not appear to be so uniformly toxic; in fact, it seemed to be hardly at all poisonous to healthy leucocytes. In the first two cases of chorea which were investigated there was a marked eosinophilia. The counts showed 20 per cent. of eosinophiles in one, and 16 per cent. in the other. Macalister thought this might possibly have been due to some unsuspected intestinal parasites, but examination of the stools for eggs, etc., gave absolutely negative results. Six or eight chorea bloods have been examined since then, and, with one exception, they have all presented this peculiarity. There has been no eosinophilia in any of the numerous cases of acute rheumatism examined.

4. **Enterospasm Simulating Acute Obstruction.**—The case reported by Wynne and Sturm was one of association of an old appendicular trouble with enterospasm, suggesting a reflex origin of this curious condition, and a possible explanation of certain cases of fecal vomiting as the peristaltic action was reversed. The patient gave a history of repeated attacks of biliary colic, which was curious, since only one gall-stone was found, and that in the appendix. Many other gall-stones must have succeeded in passing the trap. A similar, though much less severe, attack of three years previously had been relieved by a natural action of the bowels. The case was a perfect clinical picture of acute abdominal mischief, but without the abdominal rigidity usually associated with such conditions. The unexpected collapse and death of the patient suggested that even a moderate amount of abdominal manipulation in these spastic conditions of the bowel involves an inordinate degree of shock.

6. **Dercum's Disease.**—The case reported by McMullan presented almost all the characteristic symptoms of adiposis dolorosa—the history of numbness and pain, followed by diffuse symmetrical fatty deposits, the associated hemorrhages; the presence of hyperesthetic areas; and the general debility and harsh, dry skin. The patient, a woman, aged 61, was fairly bright and intelligent, but complained of some loss of memory. There was nothing about the case, however, to suggest myxedema. McMullan gave her thyroidin, grs. v, t. i. d., and after scarcely two weeks the pains had almost disappeared, the numbness and tingling had been very much alleviated, and there was a distinct reduction in size of the right arm, of almost ½ inch. The woman felt very much better, and could sleep and do a little work better than she could for several months previously.

12. **Inoculation Treatment of Tuberculosis.**—The total number of patients with tuberculous disease treated by Carmalt-Jones is 367. They all attended as out-patients, and though they included more well-to-do persons than usual in such practice, there was a large preponderance of the poor. The number of each kind of case treated are as follows: Lymphatic glands 155, joints 70, ulcer, sinus and abscess 50, genitourinary tract 34, lupus 23, lungs and pleura 10, bone 8, dactylitis 7, peritonitis 5, eye 3, and larynx 2. In 8 of the 87 cases of tuberculous lymphatic glands inoculation was employed as an adjunct to removal by operation, in every case with satisfactory results and with no recorded recurrence. In 79 patients in whom inoculation was the chief method of treatment, 37 were males and 42 females. In 10 the affected glands were either in the axilla arm or groin; in all the rest they were in the neck. The treatment of these patients has consisted in inoculating them, subcutaneously, with Koch's emulsion of tubercle bacilli, generally known as B. E. The doses are minimal at the outset, and repeated at intervals of ten days, a dose not being increased till it has ceased to have a therapeutic effect. The minimal dose is usually 1/15,000 or 1/20,000 mg., the smaller dose being always used for children. The maximal dose for children under 5 is 1/10,000, for older children and adults it rarely exceeds 1/4,000; in a few instances 1/3,000 has been used and 1/2,000 is recorded. Of these 79 patients, 27 are cured, 22 are much better, 18 are better, 8 are unchanged and 4 are worse. The patients in whom the glands were involved were, on the whole, decidedly bad cases. An indication of this is the fact that of the 79, 43, or more than half, had been operated on previously, and 21, or one-quarter,

had had more than one operation; 5 of them had had ten operations or more. Of the patients cured, 9 out of 27 had been operated on; of those much better, 14 out of 22; of those better, 11 out of 18; and 9 out of 12 of those unchanged or worse. The second variety of tuberculous infection studied was a group in which are included ulcer, sinus and abscess, 50 cases in all. The results show 10 cures, 20 patients much better, 9 better, 8 unchanged and the rest doubtful. The dose employed among patients cured has averaged 1/15,000 mg. minimum and 1/7,000 mg. maximum for children and 1/15,000 minimum and 1/5,000 maximum for adults. Thirty-four patients with tuberculosis of the genitourinary tract have been treated, in 9 cases the testes were involved, in 8 the kidney, and in 17 the bladder. Of the testis cases three patients are cured, 2 are much better, 3 better and 1 is dead. The death occurred after childbirth, and at the time when the renal symptoms were improving. Of the cystitis cases, 2 patients are cured, 4 much better, 8 better, 1 is no better, 1 worse, and in 1 the condition is unknown. Relapse has occurred in 5 cases. The dose should be a very small one at the outset; in 10 out of 15 of the successful cases the initial dose has been less than 7/15,000 mg., often 1/25,000; it may in time be brought as high as 1/4,000, but very bad results may follow excessive initial doses. Treatment in the successful cases has averaged one year and two months, though 5 patients have been treated for six months or less. Lupus has been treated in 23 cases. Three patients are cured—this is agreed, 8 are much better, 9 better, 1 unchanged and 2 unknown. The doses employed are large, of the successful cases only 3 began with 1/15,000 mg. or less, and the average minimum is 1/9,000. Maximal doses vary between 1/2,000 and 1/5,000. Of 10 patients with phthisis or pleurisy, 4 are reported cured or much better, 4 are unchanged. The dose is very small; 1/25,000 to 1/50,000 mg. is the initial dose.

Of 8 patients with bone disease, 2 are cured and 3 are much better; the dose is the same as in cases of adenitis. Of 7 patients with dactylitis, 2 are cured, 2 are better, and 1 unchanged. One patient with peritonitis is cured, 2 are better and 1 is unchanged. Three patients with ocular tuberculosis in the cornea, chorioid and retina, respectively, are all described as much better. Both patients with laryngitis are unchanged. Carmalt-Jones says that tuberculosis of lymphatic glands is the form most amenable to inoculation treatment, nearly 1 in 3 being cured, and (including cures) 5 in 8 much improved. Next comes ulcer, with 1 in 5 cured and 3 in 5 much improved. In the genitourinary tract 1 in 5 are cured, and 3 in 7 much improved, and in lupus 1 in 8 are cured, and 1 in 2 much improved.

13. **Acne Vulgaris.**—Fleming has obtained better results in the treatment of acne vulgaris from the use of a combination of staphylococcus vaccine and acne bacillus vaccine than from either vaccine alone.

21. **Acanthosis Nigricans.**—There are several points of interest in Wild's case; one is the association of the skin changes with carcinoma of the left supraclavicular glands and the prior appearance of the latter. In the absence of any post-mortem examination it is impossible to say what organ was involved in this case, as there were no symptoms of disease in any abdominal viscus, but the probabilities seem to be in favor of the cardiac end of the stomach, where carcinoma may exist for a considerable time without localizing symptoms. The pancreas, however, cannot be excluded, and suprarenal disease is possible, although the condition of the blood seemed to be against it. A second point of interest is the condition of the blood. At first sight any observer would have called the patient anemic, save for the redness of the lips and the mucous membranes. Closer examination of the skin showed this appearance of anemia to be due to the obscuration of the superficial blood-vessels by the opacity of the thickened skin. The blood-count showed only slight anemia, and beyond the deficiency of red corpuscles the blood was practically normal within a few weeks of death. There was no marked leucocytosis. Finally, should be pointed out the predominance of the lesions on the upper half of the body and hands and the freedom from any sign of disease on the feet and legs below the thighs.

22. **Idem.**—The authors supply a detailed review of the literature of this disease, and report a case.

24. **Continuous Proctoclysis.**—The apparatus employed by Paterson consists of an electroplated douche-can, which holds about five pints. In the front of the can is a thermometer and a gauge glass, and the can is graduated in half-pints, so that the amount of saline solution entering the rectum can readily be estimated. The solution leaves the can through a delivery tube with a half-inch bore, to which is attached three feet of rubber tubing connected with a large rectal tube. Under the bottom of the can is an electric heater, which can be connected with any electric supply of suitable voltage by means of a flexible cord and wall plug. The can is suspended on an adjustable stand mounted on castors so that it can readily be wheeled up to the bedside.

Lancet, London

August 28

26 *Students' Number.

26. This issue is devoted entirely to the discussion of topics of interest to medical students.

Medical Press and Circular, London

August 18

27 Acute Leukemia. A. Hertz.
28 Regulation of Marriage by the State. S. A. Bontor.
29 Etiology, Diagnosis, and Prophylaxis of Typhoid Fever in India. D. Semple.
30 Origin of Infectious Diseases. A. S. Ashmead.
31 Alcohol and its Effects on the Child. I. Doczi.

August 25

32 Feeble-Minded Children. A. F. Tredgold.
33 Treatment of Severe Cases of Chronic Colitis. J. P. L. Mummery.
34 *New Procedure for the Treatment of Diseases of the Nose. E. Sprenger.
35 Sleeping Sickness: A Study of the Tsetse Fly. E. D. W. Greig.

34. **Treatment of Diseases of the Nose.**—If the nasal mucous membrane becomes chronically affected from any cause, the nose does not act as under normal conditions; it does not receive the physiologic stimulus necessary to health; it changes still more into a condition of disease, for that reason again it does less work, etc. Spengler terms this a "*circulus vitiosus*." To bring about an improvement in the diseased part we must provide for longer pauses for rest, that is, we must bring about a temporary state of rest, and for this the mechanical, thermic and chemical stimuli must be kept back as much as possible. To accomplish this Spengler constructed small, clear yellow balls or pellets of porous India rubber, the so-called sponge-rubber. They are about 12 mm. in diameter, and are furnished with a stalk for the purposes of easy handling and cleanliness. These little balls are inserted into the lower part of the nostril and retained there for from half to three-quarters of an hour several times a day. First, a feeling of fulness is felt in the nostril, but also one of increased warmth. Very soon, however, a feeling of great relief comes on. The sensation of dryness that is often so troublesome disappears as the increased blood supply increases the secretory action of the glands. When the pellet is removed the nostril that has carried it is free, just as after an application of a weak solution of cocain, and agreeably moist. It can now be cleansed easily. This condition of relief often lasts from one to two hours, and when it passes off can easily be brought about again by the same means. Wearing the pellets regularly for several months is said to cause a marked improvement, or even complete recovery.

Clinical Journal, London

August 25

36 Obscure Fractures. E. M. Corner.
37 Antepartum Hemorrhage. H. R. Andrews.

British Journal of Children's Diseases, London

July

38 Glioma of the Spinal Cord. G. Peacocke.
39 Fetal Rickets. J. R. Charles.
40 *Treatment of Cerebrospinal Meningitis in Children with Flexner and Joblin's Antiserum. N. P. Marsh, and O. T. Williams.
41 Irregular Uterine Hemorrhage in a Young Girl. G. Gibb.
42 *Intussusception. C. P. B. Clubbe.

40. **Treatment of Cerebrospinal Meningitis.**—As the result of clinical observations in 14 cases, Marsh and Williams believe that the use of Flexner's serum in cases of cerebrospinal meningitis which are diagnosed early promises extremely favorable results, and is worthy of the consideration of those who have to deal with this condition. Even in cases which are not diagnosed so early, the serum undoubtedly favors the prognosis, and it, or frequent lumbar puncture, or both combined, have a good deal to do with the prevention of the after-conditions.

42. **Intussusception.**—Clubbe has had under his care 173 cases of intussusception; in 157 laparotomy was done, and in 16 the intussusception was reduced by injection. Of the first 50 operated on, 25 died, a mortality of 50 per cent.; of the second 50, 12 died, a mortality of 25 per cent.; of the third 50, 4 died, a mortality of 8 per cent.; among the last 7 there were no deaths. In his opinion the correct and only treatment is laparotomy.

Obstétrique, Paris

July, II, N. S., No. 7, pp. 473-544

43 *Torsion of Uterine Fibromas in Pregnancy. G. Piquand and J. Lemeland.
44 *Suprasymphyseal Cervical Cesarean Section. F. Fraipont.

43. **Torsion of Uterine Fibroma During Pregnancy.**—Piquand and Lemeland review the history of this contingency and discuss the diagnosis which is always very difficult unless the presence of the fibroma is known beforehand. In one case on record, the disturbances were subacute and the tumor changed its consistency and grew hard as the uterus contracted under the exploring hand, permitting the exact diagnosis. It is necessary to exclude kidney colic, appendicitis and tubal rupture. An ovarian cyst is usually more elastic and more movable, and its displacement is not communicated to the uterus. The torsion of a uterine fibroma is one of the most serious complications of pregnancy. The irritation of the uterine muscle may entail expulsion of the ovum. The fibroma left to itself almost invariably becomes gangrenous. The details of 25 cases on record are tabulated, with 5 fatalities. In the 3 cases in which no operation was attempted, the patients all died, while only 2 died in the operative cases. In the 13 cases of torsion of the fibroma the pregnancy continued to term in 8 cases, while the children were still-born in the others, including 3 abortions. In the 12 cases in which the torsion involved the uterus, the pregnancy continued to term in only 3. In the other cases abortion occurred or the gravid uterus had to be removed. The vascularization of the gravid uterus renders hemostasis difficult, but it was accomplished in all the cases. To ward off abortion, the patient should be kept under the influence of opium before, during and several days after the operation. In Lepage's case, the pedunculated myoma was removed, after which the torsion of the uterus became spontaneously reduced and the pregnancy continued to term. The intervention should be as restricted as possible, safeguarding the mother while respecting the pregnancy, but not hesitating to remove the uterus and contents in case of necessity.

44. **Suprasymphyseal Cesarean Section.**—Fraipont reports eight cases in which he followed the Sellheim or modified Frank technic. There has been no tendency to retroversion in any of his cases; this has been suggested as a possible complication from fixation at the site of the wound in the front of the cervix. Recovery is more rapid than after pelvis-enlarging operations. He regards every woman as infected when labor has been under way for some time, the membranes prematurely ruptured, or the vagina examined several times. The microbes in these cases are as dangerous for the cellular tissue of the pelvis as for the peritoneum. If the child is living there is no other alternative in the infected cases than the Porro or the Sellheim operation.

Presse Médicale, Paris

August 14, XVII, No. 65, pp. 577-584

45 *Foreign Bodies in the Esophagus and Bronchi and False Foreign Bodies. (Corps étrangers et faux corps étrangers de l'oesophage et des bronches.) Guisez.
46 *The Effects of Lactic Bacilli on Intestinal Digestion. (Les effets de la bactériothérapie lactique sur la digestion intestinale.) H. Labbé and G. Vitry.
47 *Hemoptysis Supplementary to the Menses. (L'hémoptysie essentielle supplementaire des règles existe-t-elle?) A. Martinet.

August 18, No. 66, pp. 585-592

48 Instrumental Dilatation of Cervix for Rapid Delivery. (De l'accouchement méthodiquement rapide par dilatation instrumentale du col utérin.) E. Bonnaire.
49 Liver Disturbances in Psychosis with Polyneuritis. (Des troubles hépatiques dans les psychopolynévrites.) Arsimoles and Halberstadt.

August 21, No. 67, pp. 593-600

50 *Manual Dilatation of Cervix for Rapid Delivery. (L'accouchement méthodiquement rapide par dilatation manuelle du col utérin.) E. Bonnaire.
51 Radium Therapy in Concrete Sebaceous Acne or Senile Keratoma. Barcat.
52 *Fluctuations in Composition of Urine in Health and Disease. (L'indosé urinaire.) H. Labbé and G. Vitry.

45. **Foreign Bodies in the Esophagus or Bronchi.**—Guisez has had 42 cases of this kind in the last five years and here gives illustrations of the instruments which he has found most useful. He comments on the remarkable tolerance of the esophagus for foreign bodies; in one case a 10 centime piece was removed that had been in the esophagus for four years without causing much disturbance. The foreign body may have passed on, but pain in swallowing may persist for some time afterward. In 19 cases of foreign body in the esophagus Roentgen-ray examination gave positive results in only 10 cases. In 3 cases the dyspnea, cough and attacks of suffocation seemed to indicate that the foreign body was in the air passages. Even radiography may prove deceptive as the foreign body is found later in the esophagus. In 2 cases Guisez was able to remove a scrap of bone which had caused symptoms diagnosed as due to pulmonary tuberculosis, but all subsiding after removal of the foreign body. There is only one way to be sure as to the presence and nature of the foreign body, and that is by direct visual inspection, bronchoesophagoscopy.

46. **The Effect of Lactic Bacilli on Intestinal Digestion.**—Labbé and Vitry report the findings in normal subjects taking lactic bacilli on a test diet for periods of from four to fifteen days. The proportion between the ethereal sulphates and the nitrogen in the urine remained constant, showing that this proportion has no connection with intestinal fermentation. The findings demonstrated that the absorption of nitrogen is much reduced under the influence of lactic ferments. They are contraindicated therefore when it is desired to give the patient a diet rich in nitrogen.

47. **Hemoptysis Supplementary to the Menses.**—Martinet warns that hemoptysis may occur in the absence of pulmonary trouble as a supplement to the menses. Ventura has published a case in which periodical hemoptysis occurred at times in place of the menses through three generations in some members of the family free from tuberculosis, syphilis, hemophilia or a heart defect. Martinet reports one out of several in his own experience. His patient was a healthy young woman nursing her second child. After two days of menstrual flow it ceased abruptly and a severe hemoptysis was observed. This occurred only once, and there have been no symptoms on the part of the lungs during the eight years since. In other cases epistaxis has supplemented or taken the place of normal menstruation.

50. **Manual Dilatation for Rapid Delivery.**—Confidence, patience and perseverance are necessary for successful dilatation of the cervix with the hand alone without injury of the parts. The muscular effort is no more than that required for instrumental dilatation, and twenty minutes are usually sufficient for the task, although over an hour may be required in exceptional cases. Its great disadvantage is that the muscles of the hand are fatigued just at the moment when they should be relied on to manage the second stage of labor. In Bonnaire's 171 cases the cervix was lacerated a little in 20; in 5 the tear extended into the segment of the cervix above, and in 2 into the vaginal wall. There were lacerations thus in 15.78 per cent.; and 26 per cent. of women with lacerations succumbed, although the injury cannot be incriminated for the fatality except in 4 per cent.—a mortality about the same as with Cesarean section. The total mortality in the 171 cases was 31, that is, 18 per cent., this method of manual dilatation being applied only in what might be called emergency cases, in which Cesarean section was the only other resource.

52. **Fluctuations in the Organic Content of the Urine.**—Labbé and Vitry refer particularly to the organic elements in the urine outside of urea, uric acid, xanthin, creatinin and ammonia, which form, for example, 28 out of the total 42 grams of organic constituents of the urine. This proportion of constituents forms on an average from one-fifth to one-half of the total organic contents. The authors have found that this proportion varies with the ingestion of carbohydrates and parallels the albumin ingested. The formula showing the proportion of nitrogen ingested and that eliminated in the urine and the total elimination of organic matters gives a basis for comparison of findings in health and disease which they have found useful for better understanding and treatment of diabetes and glycosuria in general.

Semaine Médicale, Paris

August 25, XXIX, No. 34, pp. 397-408

53 *Measures to Reduce Infant Mortality in France. (Etat actuel des diverse œuvres publiques et privées pour la lutte contre la mortalité infantile en France.)
54 The Phenomenon of Life. (Le phénomène vital d'apres les récentes données de la biologie et de la médecine.) S. Jankelevitch.

53. **The Campaign Against Infant Mortality in France.**—In this special article the public and private institutions and organizations for reducing infant mortality throughout France are reviewed in detail, and their results. In this first installment the protection of the child before its birth and of the mother during confinement are especially considered.

Beiträge zur klinischen Chirurgie, Tübingen

June, LXIII, No. 3, pp. 447-812

55 Operations in Posterior Cranial Fossa. (Operationen in der hinteren Schädelgrube.) H. Rubritius.
56 *Treatment of Actinomycosis at Wölfler's Clinic (Prague) and Ultimate Results. R. Maier.
57 *Ileocecal Tuberculosis. H. Els.
58 *Gall-Bladder and Liver Surgery. (Erfahrungen über Cholecystitis-Operationen und Leberchirurgie.) O. Haist.
59 Traumatic Enlargement of Tendons. (Traumatische Sehnenverdickung.) F. Palla.
60 Sensibility in Abdomen. (Zur Frage der Sensibilität der Bauchhöhle.) Propping.
61 *Movable Cecum. (Klinische und anatomische Fragestellungen über das Coecum mobile.) H. Klose.
62 Primary Inflammation of the Cecum. (Ueber primäre Typhlitis.) F. Cordes.
63 Weight-Bearing Conditions in the Bones of the Legs. (Die Belastungsverhältnisse am normalen und am pathologisch deformierten Skelett der unteren Extremität.) W. Hagen.
64 Two Cases of Contusion Rupture of Spleen. (Beitrag zu den subkutanen Milzrupturen.) A. Hoffmann.
65 Roentgen-Ray Examination for Splinters of Glass. (Der radiographische Nachweis von Glassplittern.) G. v. Saar.

56. **Treatment of Actinomycosis at Prague.**—Maier states that no cases of actinomycosis in the thorax were encountered, but he gives the particulars of 30 cases of such lesions in the head and neck, 7 in the abdomen and 2 cutaneous lesions of peculiar malignancy. Only prompt amputation of the arm with the primary lesion could have saved one of these last two patients from the acute fatal sepsis. In conclusion, he tabulates the total experience with 56 cases in which treatment was by iodid alone, with 34 cures; 94 with operation alone, with 75 cures; 109 with excision plus iodid, with 60 cures, and 30 in which treatment was by other measures, with 25 cures. All but 46 of the cured patients have been re-examined recently. He calls attention to the fact that the deaths during the years since were in many cases reported as having been due to tuberculosis, while there is a possibility that the supposed tuberculosis may have been merely a metastasis in the lung from the old actinomycotic infection in some of these cases. His conclusions from a review of nearly 300 cases are that actinomycosis when circumscribed should be resected like any other tumor. If this is not possible or if the affection is diffuse he advocates administration of potassium iodid internally with partial resection. His experience in one case encourages further trials of tuberculin in actinomycosis, as the cure in this case can be ascribed, he thinks, only to the course of tuberculin treatment. The iodid does not require such large dosage as some advocate; his preference is for 1 gm. the first day, 2 gm. the second, 3 gm. the third (from 15 to 45 grs.), repeating the same succession after suspension for three days. Sometimes he gave from 2 to 5 gm. a day in powders, supplemented by local applications of a 10 per cent. solution of potassium iodid. To avoid the possibly deleterious effect of potassium iodid on the heart, he gives sodium iodid in preference and has found it equally effectual. In case of diffuse lesions in the abdominal cavity, tuberculin treatment may effect a cure as in the case reported; the affection had lasted for two years and the patient received 68 injections of "old" tuberculin, the total amount being nearly 100 c.c. injected between May, 1904, and January, 1906. At first there was a lively local reaction to the smallest amount injected, with general febrile reaction, but the reaction grew less and less until there was none at all, even when 6 gm. was injected at a dose. The patient was re-examined nearly nine months after he had been discharged cured, and no traces of recurrence could be detected. The first fistula in this case developed four weeks after the first signs of the tumor in the region of the umbilicus.

57. **Ileocecal Tuberculosis.**—Els reports ten cases of a tuberculous process in the ileocecal region; all the patients recovered after resection, with a single exception, and eight are still in good health, the interval ranging from seven months to nearly seven years. The report issues from Garré's clinic at Bonn.

58. **Gall-Bladder and Liver Surgery.**—Haist analyzes 82 cases of gall-bladder and liver disease requiring operative treatment in Hofmeister's service at Stuttgart. In conclusion, he emphasizes the necessity for regarding every laparotomy as an exploratory operation; notwithstanding the immediate discovery of what seems ample cause for the symptoms, yet careful search should be made for unsuspected lesions, especially in gall-stone affections, as they are liable to induce numerous changes in the environment.

61. **Movable Cecum.**—It was formerly supposed that the study of the topography of the various loops of the intestines offered no practical results, but Klose and others are now calling attention to movability of the cecum as an index of defective development. It may cause no disturbances or may induce colics and inflammation, remedied by simple intraperitoneal cecopexy.

Berliner klinische Wochenschrift

August 23, XLVI, No. 34, pp. 1557-1596

66 Case of Traumatic Abdominal Hernia in Unusual Location. (Fall von traumatischer Bauchhernie.) H. Schmid.
67 *Monoplegic Syringomyelia. A. Wimmer.
68 *Throat Symptoms in Syringomyelia. (Rachen- und Kehlkopfsymptome bei der Syringomyelie.) E. Baumgarten.
69 Simulation and Exaggeration of Ear Affections in Social Medicine. (Vortäuschung und Uebertreibung von Ohrenleiden in der sozialen Medizin.) A. Peyser.
70 *Intravesical Dissolving of Fat-like Foreign Bodies. (Intravesikale Auflösung fettartiger Fremdkörper.) C. Posner.
71 "Antagonistic" Therapy of Tuberculosis and Reversible Phylogenesis. E. Klebs. Commenced in No. 33.
72 Vitalism and Teleology in the Natural Sciences. Thöle. Commenced in No. 33.
73 *Abdominal Manifestations with Commencing Pneumonia. (Appendicitis und Pneumonie.) Schönstadt.

67. **Monoplegic Syringomyelia.**—Wimmer reports three cases of this rare condition. In one case considerable improvement was obtained by Roentgen-ray treatment.

68. **Throat Symptoms of Syringomyelia.**—Baumgarten reports a case of paralysis in the throat and palate, with sensibility and reflexes normal, in which further investigation revealed syringomyelia. There had been no other noticeable disturbances beyond the change in the voice, but the paralysis of the palate and atrophy of the right side of the tongue confirmed the diagnosis of syringomyelia. He cites 26 similar cases from the literature and points out that the symptoms in the throat may be the first sign of the affection. In 9 of the 27 cases there was atrophy of the tongue, and there was paresis of the palate in 17. In 3 cases the hoarseness came on suddenly.

70. **Benzin to Dissolve Fat as Foreign Body in Bladder.**—Posner's patient was an elderly woman who had recurring inflammation in the urethra after removal of polyps four years before. Medicated bougies were ordered which she introduced in the urethra herself, but with exaggeration of the previous symptoms, the serious disturbances now simulating a calculus in the bladder. Fat globules were found floating on the urine and the cystoscope revealed small lumps of fat, which were traced to the cocoa butter vehicle of the medicated bougies.

After rinsing out the bladder with salt solution, Posner injected 15 c.c. of pure benzin, which was retained for fifteen minutes. All disturbances ceased at once, as the bladder was thus completely cleaned out, without by-effects of any kind. The bougies used had been unusually long, fully 11 cm. in length.

73. **Abdominal Phenomena with Incipient Pneumonia.**—Schönstadt protests against Glaserfeld's communication on the "abdominal phenomena with incipient pneumonia," mentioned in THE JOURNAL, September 11, page 901. He interprets the syndrome described as cases of appendicitis with involvement of the lungs, and is convinced that appendicectomy in time might have warded off the lung trouble.

Deutsche medizinische Wochenschrift, Berlin

August 19, XXXV, No. 33, pp. 1417-1464

74 Conception of Disease. (Ueber den Krankheitsbegriff und verwandte Begriffe.) L. Aschoff.
75 Organotherapy of Incipient Senile Cataract. (Zur spezifischen Therapie des beginnenden Altersstares.) P. Römer.
76 Trachoma Bodies in Section Specimens. (Darstellung der Trachomkörper im Schnittpräparat.) H. Herzog.
77 *Injurious Action of Sun-Baths. (Schädliche Wirkungen der Sonnenbäder.) E. Grawitz.
78 Technic for Detection of Tubercle Bacilli in Sputum. (Verwendung von Antiformin und Ligroin für den Nachweis der Tuberkelbazillen im Sputum.) G. Bernhardt.
79 *Typhoid Bacilli not Found in Gall-Bladder in Bacillus-Carrier. (Typhusbazillenträger und Cholezystektomie.) W. Loele.
80 *Surgical Treatment of Peritonitis. Dege.
81 *Origin of Ileus after Appendicitis. (Zur Entstehung des Ileus nach Blinddarmentzündung.) Id.
82 Technic for Prostatectomy. (In welcher Gewebsschicht findet bei der sogenannten Prostatectomie, insbes. der suprapubischen, die Exstirpation der hypertrophischen Teile statt?) A. Rothschild.
83 Insignificant Disinfecting Properties of Ordinary Mouth Washes. (Die desinfizierende Wirkung einiger gebräuchlicher Zahn- und Mundwässer auf pathogene Bakterien.) R. Bassenge.
84 Anatomic Conditions that Favor Local Anesthesia in the Jaws. (Anatomische Untersuchungen im Ober- und Unterkiefer zum Zwecke der Lokalanästhesie bei zahnärztlichen Operationen.) Bunte.
85 Misleading Names of Certain Pharmaceutical Preparations. (Unrichtige Bezeichnungen einiger pharmazeutischer Präparate.) R. Sodemann.

77. **Injurious Action of Sun-Baths.**—Grawitz announces that he has witnessed the development of nervous disturbances in a number of persons after prolonged exposure to the sunlight. Some of the patients had been taking sun-baths, an institution in the vicinity offering men an opportunity for bathing in the river and taking sun-baths, naked for hours at a time, day after day. Aside from the sunburn he found the heart action accelerated, with systolic murmurs at the various valves, the dulness increased toward the right, decreased toward the left, pulse with much tension, accentuated second sound and, in a few cases, collapse of the heart with threatening general symptoms. The temperature was increased in some of the patients, but he never encountered albuminuria. The headache and general depression sometimes persisted for days; in other cases the nervous system was much excited. The connection between these nervous symptoms and the sun-baths was evidenced by their development in previously healthy men and their subsidence as soon as the individuals refrained from this excessive exposure to the sun. In some instances the family was much alarmed at the severity of these nervous attacks. Grawitz does not ascribe the effect to the heat so much as to the action of the sun on the unprotected head. The exciting action of the sunlight is particularly evident in children allowed to play on the beach for hours at a time. These children return home brown and ruddy, but with unstable nervous system, so that the desired benefit from the stay in the country has not been attained. He insists that children should not be allowed to play in the sun between noon and 4 p. m., but should always be sent into the shade to play during the heat of the day. He ascribes much of the prevalent general nervousness and heart irregularities to excessive exposure to sunlight. In treatment, cool applications to the head and heart, cool drinks, and, in the severer cases, analeptics, are indicated, but prophylaxis is of the greater importance, and he advises warning the parents and friends of persons who risk their health by these excessive exposures of the danger they incur.

79. **Typhoid Bacilli-Carriers and Cholecystectomy.**—Loele reports a case in which a patient with cholelithiasis required an operation three months after typhoid fever. Typhoid bacilli had been present in the stools constantly during the interval. The operation revealed that the typhoid bacilli had no foothold in the gall-bladder. No typhoid bacilli could be found in this organ or in the urine, blood, spleen and liver examined postmortem. The suggestion to remove the gall-bladder as the nidus of the typhoid bacilli in the chronic carriers would not have applied in this case.

80-81. **Treatment of Peritonitis.**—Dege discusses the arguments for and against flushing the abdominal cavity in treatment of perforative peritonitis, and describes a case in which ileus followed later from a band-like adhesion which had evidently formed around the drain and tampon. He argues that the proper course is between the two extremes, restricting the amount of tamponing and never inserting a tampon between loops of intestines. In his experience, the Fowler position has always had a favorable influence on the course of peritonitis.

Medizinische Klinik, Berlin

August 8, V, No 32, pp. 1181-1218

86 *Erysipelas in the Aged. (Erysipel im Greisenalter.) H. Schlesinger.
87 *Special Forms of Local Reaction in the Eye after Subcutaneous Injection of Tuberculin. J. Rupprecht.
88 *Polyneuritis and Korsakoff's Psychosis with Colon Bacillus Pyelitis in Pregnancy. M. Semon.
89 Electric Treatment of Bronchial Asthma. O. Gunzel.
90 Pulse Pressure in Arteriosclerosis. (Verhalten des Pulsdruckes bei Arteriosklerose.) F. Kisch, Jr.
91 Composition of Blood and Digestion. (Bestimmung der Blutbeschaffenheit in ihrem Bezug auf die Verdauung.) Marcus.
92 *Potato or Solanin Poisoning. (Die sogenannte Kartoffel- oder Solaninvergiftung.) v. Haselberg.

August 15, No. 33, pp. 1219-1254

93 *Heart Lesions in Infectious Diseases. (Herzaffektionen bei Infektionskrankheiten.) F. Meyer.
94 Normal Nutritional Condition of Adults. (Der "normale" Ernährungszustand des erwachsenen Menschen.) G. Oeder.
95 Objective Registration of Conditions in Circulation. (Ueber die Möglichkeit, die Druckkraft des Herzmuskels, die Grösse des Widerstandes im Gefässsystem und die Geschwindigkeit im menschlichen Kreislauf zu bestimmen—Amplitudenmessung und die Bestimmung des Schlagvolumens.) Gräpner.
96 *Constitutional Obesity. (Ueber konstitutionelle Fettsucht.) C. Pariser. Commenced in No. 32.
97 *The Wassermann Reaction. J. Bergmann.

86. **Erysipelas in the Elderly.**—Schlesinger states that 288 out of 2,664 cases of erysipelas in his service at Vienna were in persons over 60, that is, in 10.8 per cent. Only 91 of his elderly patients were men. He has been making a special study of the affection in the aged, and comments on the rarity of severe heart disturbances in the course of erysipelas; they are seldom observed from the direct action of the infection and its toxins, but after the subsidence of the disease the heart may be left extremely weak, so that the patient may be threatened by the consequences and complications of the erysipelas which he has apparently passed through without harm. Endocarditis is not frequent, but pericarditis and even the suppurative form may follow erysipelas in the elderly. He noticed in the majority of fifteen patients examined for the purpose that leucocytosis was high during the infection and rose still higher after its close. The blood formula was not much changed except for the total absence of eosinophiles. Complications on the part of the respiratory organs were no more common than after other infections, but kidney affections were repeatedly encountered with erysipelas in the elderly, especially an acute hemorrhagic process subsiding with the infection. Nervous symptoms were frequent, sometimes mental confusion or delirium, even with an afebrile course of the erysipelas, occasionally there were ideas of persecution, but meningitis was scarcely ever observed in the elderly. The erysipelas attacked the face almost invariably; none of his patients presented erysipelas of a mucous membrane, although he knows of one case on record in which the throat was primarily invaded. Unusually frequent were the complications or sequels in the form of suppurative processes in the subcutaneous cellular tissue, especially when the erysipelas was on the limbs. These lesions ranged from abscesses and phlegmons to suppurative venous thrombosis and gangrenous processes. Gangrene of the lids was observed in a few cases, but the eyeball did not suppurate in any instance, and he witnessed the healing in some cases of a deep, extensive gangrenous process, even in women over 80. In 25 per cent. of his 288 cases of erysipelas in the elderly, it terminated fatally, but only 2 succumbed of the

15 patients who were over 80. In treatment the flagging heart of the elderly must be borne in mind and digitalis given when there is suspicion of degeneration; caffein or sodium salicylate may be indicated when the blood pressure drops and the pulse grows slow or if arrhythmia is observed. Anointing the skin after subsidence of the erysipelas is useful in prophylaxis, and the patients should not be allowed to lie long on one spot. Local warmth relieves the disturbances, and even extensive infiltrations may retrogress under it. Compresses wet with Burrow's solution (5 parts alum and 25 parts lead acetate in 500 parts water) or 60 per cent. alcohol have given him better results than any other measures. In combating the frequent sleeplessness he warns against morphin, as weakened elderly patients sometimes cannot bear it. Notwithstanding an apparently desperate condition, the elderly patient with erysipelas may throw it off and recover.

87. **Local Reactions in the Eye After Tuberculin Subcutaneously.**—Rupprecht reports two cases, in women of 18 and 28, in which chorioiditis or serous cyclitis flared up and became severe after a single subcutaneous injection of 10 and 5 mg. old tuberculin. There is a possibility of actual injury from the tuberculin, and the cases further emphasize the necessity, he says, of having expert ophthalmologic examination of the eyes when tuberculin is injected for differentiation of an eye affection; otherwise some minute reaction might be overlooked, and harm result from repetition of the dose. His cases confirm the importance of tuberculosis as a factor in inflammatory affections of the chorioid.

88. **Psychosis and Colon Bacillus Pyelitis in Pregnancy.**—Semon reports the case of a woman of 27 who presented a typical Korsakoff psychosis with polyneuritis and hyperemesis early in her first pregnancy, with colon bacillus pyelitis. He regards the latter infection as probably responsible for the neuritis.

92. **Potato or Solanin Poisoning.**—Haselberg reviews forty-one cases of wholesale poisoning, involving 2,000 troops, and ascribed to solanin poisoning from potatoes, but which he shows were probably due to contamination of the potatoes after they had been cooked and were waiting to be warmed over or used in a salad, being kept in some warm place in the interim. He declares that potatoes never can be in themselves poisonous, and cites research with solanin to confirm the fact that solanin is not very toxic; its toxic dose has not yet been determined.

93. **Cardiac Disturbances with Infectious Diseases.**—Meyer discusses the literature, symptoms, etiology and treatment, remarking that the most promising measure to ward off heart trouble is by serotherapy. Personal research with diphtheria has demonstrated, he asserts, that a proper dosage of diphtheria antitoxin, given at the right time, will certainly ward off circulatory disturbances in animals. It protects against them, but cannot cure if they are already installed. He is convinced that his successful experimental prophylaxis in diphtheria opens bright prospects for serotherapy as a preventive of cardiac complications in other infections (streptococcus infections).

96. **Constitutional Obesity.**—Pariser has been steadily acting on his belief that endogenous obesity is of thyroid origin, and has been administering thyroid extract during the last ten years during all the ups and downs of thyroid treatment. He is rejoicing now that von Noorden has at last conceded that clinical observation compels the assumption of a constitutional obesity, notwithstanding that the laboratory metabolic findings are unable to explain it to date. Pariser describes the first case that opened his eyes to the participation of the thyroid: a woman of 25 with extreme obesity developing soon after panhysterectomy, had taken ovarian tablets perseveringly, but without the slightest effect, but a turn for the better was apparent at once when thyroid treatment was instituted. This and other experiences have convinced him that the thyroid is a secondary sexual organ, like the mammary gland, and that constitutional, endogenous obesity may result from thyroid incompetency. The lack of success from dietetic measures and palpation of the gland may suggest the presence of this form of obesity, and this assumption is confirmed by the efficacy of extremely mild thyroid treatment, increasing from 0.1 to 0.3 gm. of gland substance (in tablet form) in the course of three weeks and then reducing again, with a free interval of a week at the end of the month. His maximal dose is thus less than one-third of the average dosage of the last few years. With this technic he never has any by-effects; if polyuria should develop he would regard it as a sign that the individual dose was too high or the intervals too short. The most reliable index of cumulative action is the pulse. If the pulse runs up to 100 or 110 the thyroid extract should be suspended and rest imposed, not necessarily in bed. The pulse rate was increased in this way in 8 or 10 of his cases, but less frequently since he has perfected his technic. After two or three of these monthly thyroid courses he suspends the treatment for six or eight weeks, but as the aim is to supply a physiologic deficiency, the thyroid extract has to be constantly supplied anew as the deficiency makes itself felt. He insists that constitutional obesity is more than a mere accumulation of fat; it has many points in common with myxedema, even to the temperament and character. Myxedema may be regarded as the last offshoot, run wild, of constitutional obesity. He generally combines dietetic measures with the thyroid treatment, as the endogenous is frequently mixed more or less with the exogenous form. In the pure endogenous variety, however, the thyroid treatment alone will prove effectual.

97. **Seroreaction in Syphilis.**—Bergmann relates the results of application of the Wassermann test in 19 infants and their mothers, the findings sustaining the assumption that the mother of a new-born syphilitic child requires specific treatment even although she may be apparently free from signs of syphilis. The test applied to 75 wet-nurses gave positive findings in 7 and in 5 of this group nothing otherwise suggesting syphilis could be discovered. Signs of syphilis were found, however, in 4 of the women's infants. This proportion of one syphilitic in every 10 or 11 wet-nurses imposes the necessity for applying the test in selecting a wet-nurse. It even suggests the necessity for making the test compulsory before the laity can engage a wet-nurse. The question whether all syphilitic new-born infants give a positive response was answered in the affirmative by his experience with 19 infants with manifestations of syphilis, while it proved particularly valuable in excluding syphilis in some other dubious cases of eczema, eye affections, etc. Occasionally the reaction occurs when nothing to suggest syphilis can be detected. In other cases the reaction, negative at first, becomes positive later, suggesting the possibility of infection from the mother during delivery. In 2 cases a syphilitic mother gave birth to a child apparently free from the taint during the six months the child was under observation. But even when the test is negative he warns against giving the infant of a syphilitic woman to a healthy woman to nurse, but the mother can be allowed to nurse her own child. Close contact between them is unavoidable any way, sooner or later. It has long been the rule in his service that no child less than eight weeks old is given to another woman to nurse; the breast milk is drawn and fed to it.

Wiener klinische Wochenschrift, Vienna

August 19, XXII, No. 33, pp. 1145-1170

98 *Action of Digestive Ferments on Tuberculin. (Einwirkung von Verdauungsfermenten auf Tuberkulin.) T. Pfeiffer and R. Persch.

99 Nature of Antitrypsin in the Serum and Mechanism of its Action. O. Schwarz.

100 Multiple Neurofibromata. Three Cases. (Zur Kenntnis des Morbus Recklinghausen.) A. Hintz.

98. **Action of Digestive Ferments on Tuberculin.**—This article describes experiments with tuberculin mixed with the various digestive ferments and then applied to the skin for the v. Pirquet test and also in subcutaneous injection. The results testify to the destructive influence of the digestive ferments on the tuberculin. The specific action of tuberculin on the skin was almost completely abolished by mixture with pepsin, trypsin and erepsin.

Zentralblatt für Chirurgie, Leipsic

August 21, XXXVI, No. 34, pp. 1161-1192

101 Changes in the Viscosity of Blood after Operations. (Aenderungen in der Blutviskosität infolge von chirurgischen Operationen.) G. Bolognesi.

Zentralblatt für Gynäkologie, Leipsic

August 21, XXXIII, No. 34, pp. 1177-1216

102 *The Inflatable Bag in Placenta Prævia. (Metreuryse bei Placenta praevia.) B. Krönig.
103 *Vaginal Operative Treatment of Rupture of Uterus without Hysterectomy. (Operative Heilung der Uterusruptur auf vaginalem Wege unter Erhaltung der Gebärmutter.) E. Solms.
104 Measurement of Diagonal Conjugate. (Messung der Conjugata diagonalis in der praktischen Geburtshilfe.) S. Rebaudi.
105 Index Measure for Distance between Tuberosities of the Ischium. (Beckenmesser für die Abstände im Beckenausgang.) E. Hauch.
106 Radial Paralysis after Fracture of Arm during Delivery. Operative Isolation of Nerve. Recovery. (Radialislähmung nach Oberarmbruch bei der Armlösung.) R. Füth.

102. **The Inflatable Bag with Placenta Prævia.**—Krönig asserts that the metreurynter may reduce the mortality of the children a little, but it has not reduced that of the mothers. In his experience 19 women out of 28 with placenta prævia were treated with the inflatable bag and 4 died, while severe hemorrhage occurred in 6 with the expulsion of the bag, and in 8 there was severe hemorrhage after the birth. He has been compiling statistics of different methods of treatment for placenta prævia, the average being in 6,569 cases a maternal mortality of from 5 to 7 per cent. and of the children of from 50 to 70 per cent. He refers in conclusion to a recent discussion in America of the advantages of Cesarean section in placenta prævia, remarking that the results communicated there do not apply to his method of procedure. When Cesarean section is not done until the end of the period of dilatation, there is no security against fatal after-hemorrhage, for by that time the insertion of the placenta in the isthmus has already been stretched—which is what he expressly tries to avoid—and, with the defective contraction of this segment of the uterus, hemorrhage is likely to follow.

103. **Suture of Ruptured Uterus by Way of the Vagina.**—Solms refers only to the ruptures in the lower segment of the uterus, and reports three cases in which he applied this technic. A horseshoe incision is made around the vaginal portion of the uterus, thus permitting the drawing out of the cervix after the bladder has been separated from it. Dührssen has applied a similar technic, and Solms expatiates on the lessened shock and lessened danger of sepsis, peritonitis and hemorrhage.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 15, XXX, No. 97, pp. 1017-1032

107 The Blood Picture in Cancer. (Formola ematica nel cancro in generale, con speciale riguardo ai leucociti.) A. Poggiolini.

August 19, No. 99, pp. 1041-1048

108 Difference between the Temperature in the Two Axillæ in Tuberculosis. (Differenze fra le due temperature ascellari nei tubercolosi.) L. Casali.

August 22, No. 100, pp. 1049-1064

109 The Ocular Tuberculin Reaction. (Sul comportamento clinico della reazione congiuntivale di Calmette.) F. Nassetti.
110 Differentiation of Malta Fever. P. Bueri.

Riforma Medica, Naples

August 16, XXV, No. 33, pp. 897-924

111 Pathologic Anatomy of Central Nervous System in Chorea. (Sistema nervoso centrale nel considetto stato coreico.) R. Ciauri.
112 Experimental Research on Anastomosis of Stumps of Severed Vas Deferens. (Sopra alcuni particolari reperti ottenuti nell' anastomosi dei monconi del condotto deferente reciso.) A. Marassini.

August 23, No. 34, pp. 925-946

113 *Suprarenal Theory of Osteomalacia. Unilateral Capsulectomy and Pregnancy. (Teoria surrenale dell'osteomalacia; capsulectomia unilaterale, e gravidanza.) T. Silvestri and C. Tosatti.
114 *Advantages of Treating Hydatid Cyst by Injection of Silver Fluorid. (Cisti da echinococco dello spazio del Retzius guarita col metodo Biondi.) A. Gasbarrini.

113. **Suprarenal Theory of Osteomalacia.**—Silvestri has been repeating Bossi's experiments with removal of the suprarenal capsules in gravid animals to determine whether any tendency to osteomalacia could be detected afterward. He experimented on rabbits and guinea-pigs and was unable to discover evidences suggesting any such influence on the skeleton from unilateral capsulectomy. The animals all aborted, however, in from nine to thirty days; in 2 the abortion was internal, and the embryos were absorbed. This could not have been the result of the operative trauma, as the animals had all recovered completely from this before the abortion occurred. No appreciable morbid changes were found in the ovaries of the animals. It seems probable, he thinks, that osteomalacia is the result of hyperfunctioning of the ovaries which may be accompanied later by perverted functioning. Suprarenal treatment seems to have a rational basis, as the suprarenals possibly have an antagonistic action to that of the ovaries. This theory is confirmed by recent research, which has shown that while thyroidectomy prevents the development of adrenalin atheroma, castration, on the other hand, brings it on more rapidly and more severely. The abortion in the animals is probably the result of the insufficiency of the chromaffine tissue, similar to the constant abortion of gravid rabbits after thyroidectomy. In conclusion, he gives five arguments against the assumption of the infectious nature of osteomalacia: The fact that in 96 per cent. of the cases the patients are women and in more than 80 per cent. women who have borne children; the negative histopathologic and bacteriologic findings, and the fact that while the osteomalacic bones continue to soften in the cultures of the diplococcus ineriminated by Arcangeli, normal bones are not affected in the slightest.

114. **Silver Fluorid Injection in Treatment of Hydatid Cyst.**—In the case described, excellent results were obtained by exposing the non-adherent cyst with a laparotomy and evacuating it by means of a cannula and then injecting about 20 c.c. of a 1 to 1,000 solution of silver fluorid.

Hygiea, Stockholm

July, LXXI, No. 7, pp. 641-767

115 First Medical Degrees Granted in Sweden. (De första doktorspromotionerna vid de svenska högskolorna.) C. Sundberg.
116 Treatment of Syphilis. (Till frågan om behandlingen af den syfilitiska sjukdomen.) E. Welander.
117 Seven Cases of Exophthalmic Goiter in the Insane. (Morbus Basedowi hos sinnessjuka.) V. Wiegert.

Ugeskrift for Læger, Copenhagen

August 5, LXXI, No. 31, pp. 881-910

118 Spring Brace for Deformity of the Spine. (Anvendelsen af et nyt Princip ved Behandlingen af Columnas Deformiteter.) E. Nyrop.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

TRANSACTIONS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION. FORTY-SECOND ANNUAL SESSION, 1909. Cloth. Pp., 368.

PROCEEDINGS OF THE THIRTY-NINTH ANNUAL MEETING OF THE NEW JERSEY PHARMACEUTICAL ASSOCIATION, 1909. Cloth. Pp., 251.

MINOR AND OPERATIVE SURGERY INCLUDING BANDAGING. By Henry R. Wharton, M.D., Surgeon to the Presbyterian Hospital. Seventh Edition. Cloth. Pp. 657, with 555 illustrations. Price, $3. New York and Philadelphia: Lea & Febiger, 1909.

THE HIGHER FUNGI OF THE CHICAGO REGION. Part 1.—The Hymenomycetes. By Dr. Will Sayer Moffatt. Bulletin No. VII. Part 1, Natural History Survey. Paper. Pp., 156, with illustrations. Chicago: Published by the Academy, June, 1909.

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